TRANSIT THE REFERENDUM ROUTE: WHY BOTHER?

August 5, 1968

RAILWAY AGE

THE TRANSPORTATION WEEKLY

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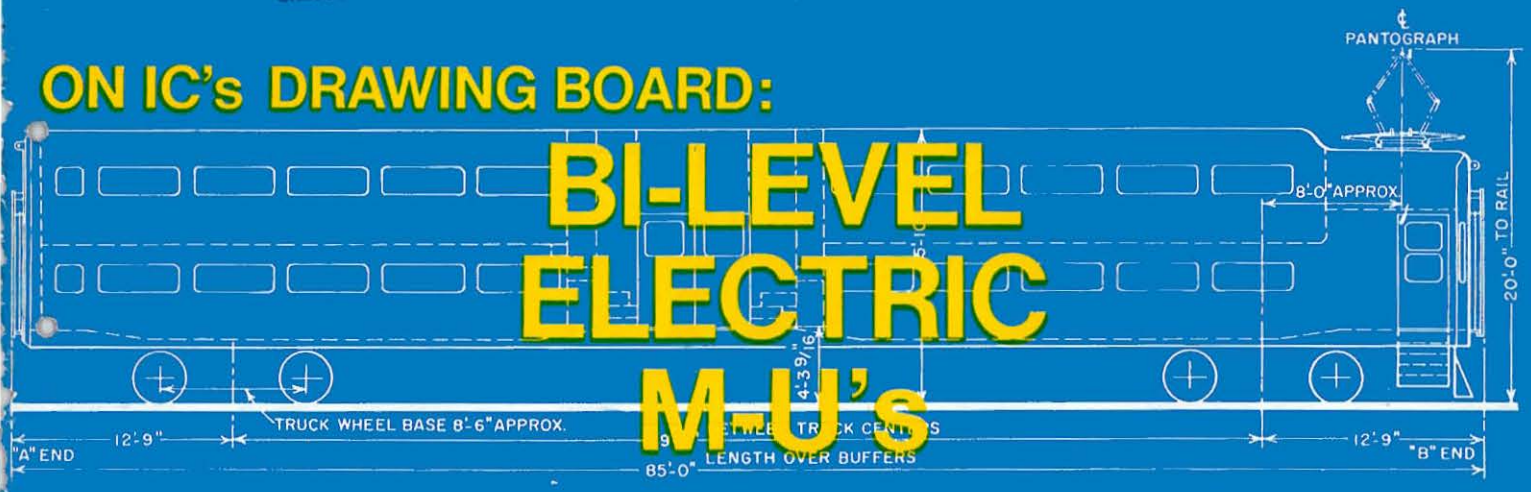
ON IC's DRAWING BOARD:

BI-LEVEL ELECTRIC M-U's



Fast new "Tempo" for CN

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Trim 600 pounds off each car

New O-B lightweight, high-performance collector weighs one-fifth of conventional units—costs less too!

Here's a completely new product from Ohio Brass—the lightweight, high-performance O-B current collector. Its revolutionary new design offers important performance improvements, and results from the application of O-B's 80-year transit-experience reservoir.

O-B transit engineers developed the new lightweight collector to meet an 80-mile-an-hour service maximum, but have since proved its capability to meet operating requirements well above 100 miles an hour. Excess weight and wearable parts were minimized on the new design to provide a modern, streamlined collector that requires a minimum of maintenance. As a result, the new O-B unit weighs less than 40 pounds—compared to up to 200 pounds for conventional designs. And, O-B's new collector consists of only five basic components. A rubber torsional unit eliminates possible annealing or burning of bearings or springs because all power must be carried through shunt wires from the collector shoe to the vehicle.

Ask your O-B district manager how his new lightweight collector would adapt to your operating specifications. He'll be glad to help and explain the capabilities of this new unit which has been selected for service on the BART system. Or, write us direct for more information. 661-T

80 Years of Leading Transit Designs

THE OHIO BRASS COMPANY • MANSFIELD, OHIO • 44902
Canadian Ohio Brass Co. Ltd. • Niagara Falls, Ontario, Canada

OHIO BRASS

Circle 1 on coupon page 33

Want to know more about
Bethlehem Panelized Switches?

Bethlehem Panelized Switches are catching on strong with a growing number of railroads. They substantially speed up yard construction, and cut down labor costs.

Our new Folder 2445 contains the answers to most of the questions you might have about Panelized Switches. Ask our nearest sales office for a copy, or send the coupon direct to Room 1047, Bethlehem Steel Corporation, Bethlehem, Pa., 18016.

BETHLEHEM STEEL

Room 1047
Bethlehem Steel Corporation
Bethlehem, Pa. 18016

Please send me _____ copies of Folder 2445, Bethlehem Panelized Switches.

Name_____

Company_____

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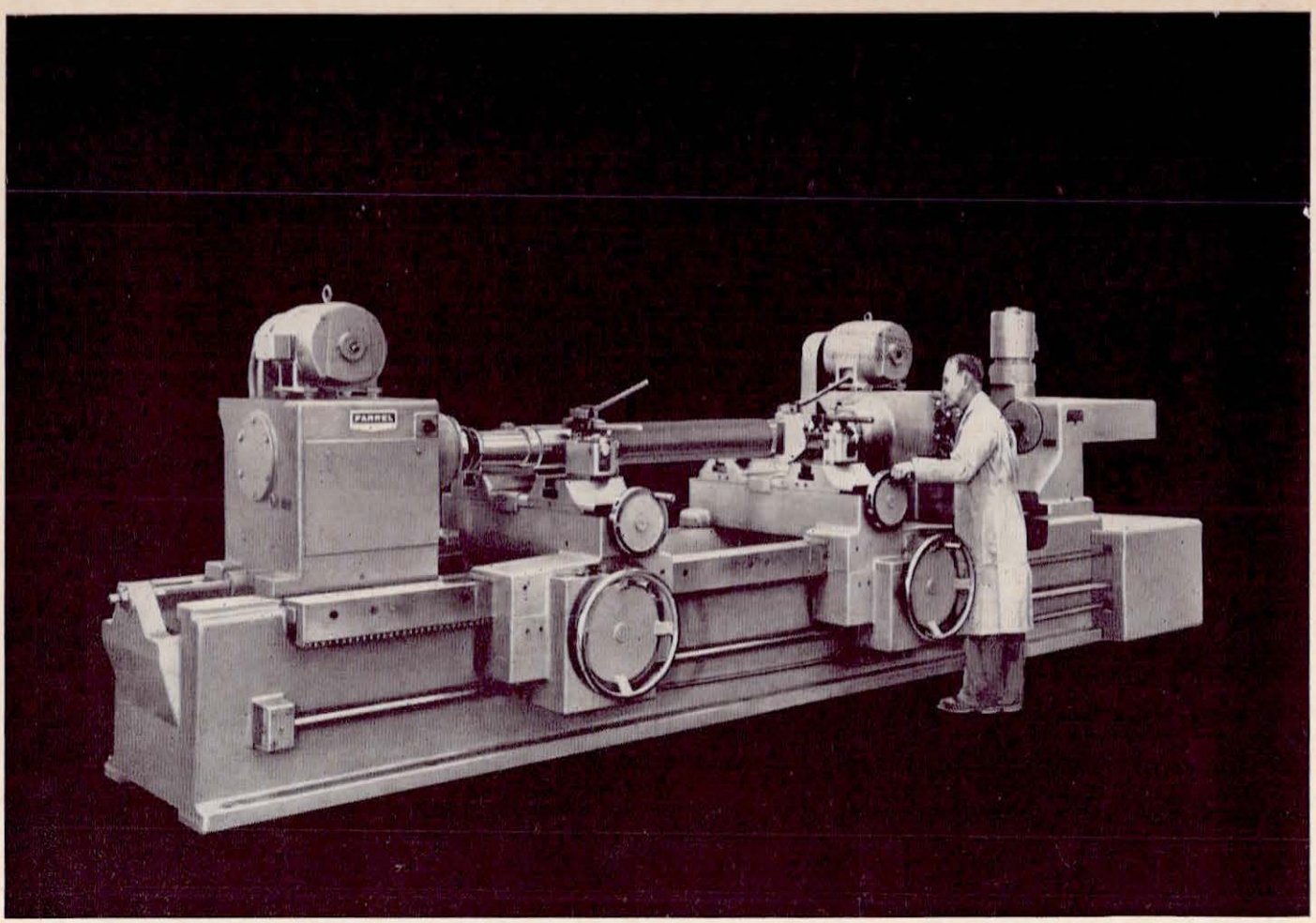
City_____ State_____ Zip_____



dual-end drive journal-truing and axle lathe

will turn and burnish up to 18 axles per shift!

The most productive machine available for remachining bare axles and journals of mounted wheel sets, this "new design" lathe is as modern in performance as it is in appearance.

Dual-end drive provides equalized distribution of workhead horsepower to the workpiece. Chucking arrangement permits placement of axles into or out of the lathe without interference. Having a speed range suitable for carbide tooling, the lathe will:

1. Finish turn and burnish either new or used, car or diesel axles in standard AAR sizes from 3¾" x 7" up to 7" x 12".
2. Finish turn and burnish outside journals on mounted wheel sets.
3. Turn and burnish inside journals of mounted wheel sets, with tread diameters up to 46", with proper tooling.
4. Turn center portion, between wheel seats, of straight axles.

Write, today for your free copy of Bulletin 3001-A which gives specifications and describes the lathe in detail.

FARREL

FR-244

FARREL CORPORATION
RAILROAD EQUIPMENT DIVISION
565 Blossom Road, Rochester, New York 14610
Telephone: 288-4600 (Area Code 716)

THE WORLD'S MOST COMPLETE LINE OF WHEEL-SHOP EQUIPMENT: Wheel Lathes • Dual End-drive Axle Lathes • Car-wheel Borers • Under-floor Wheel-truing Machines • Mounting and Demounting Presses • Completely Automated Wheel and Axle Shops • Automated Axle Manufacturing Machining Centers

RAILWAY AGE

Aug. 5, 1968 • Vol. 165, No. 5

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It's full of perils—but there are also big pluses.

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. . . AND COMING NEXT WEEK

Snowtime is no time to begin worrying about how to remove the white stuff from the tracks; railroad chief engineers put in a lot of hours during the summer plotting their winter strategy. Few roads are harder hit by winter weather than the Bangor & Aroostook—and the August 12 issue of Railway Age will describe how the BAR plans and executes its strategy. One device: Attachments which convert summer track equipment for winter use. Also: A report on how Erie Lackawanna works both winter and summer to control brush.

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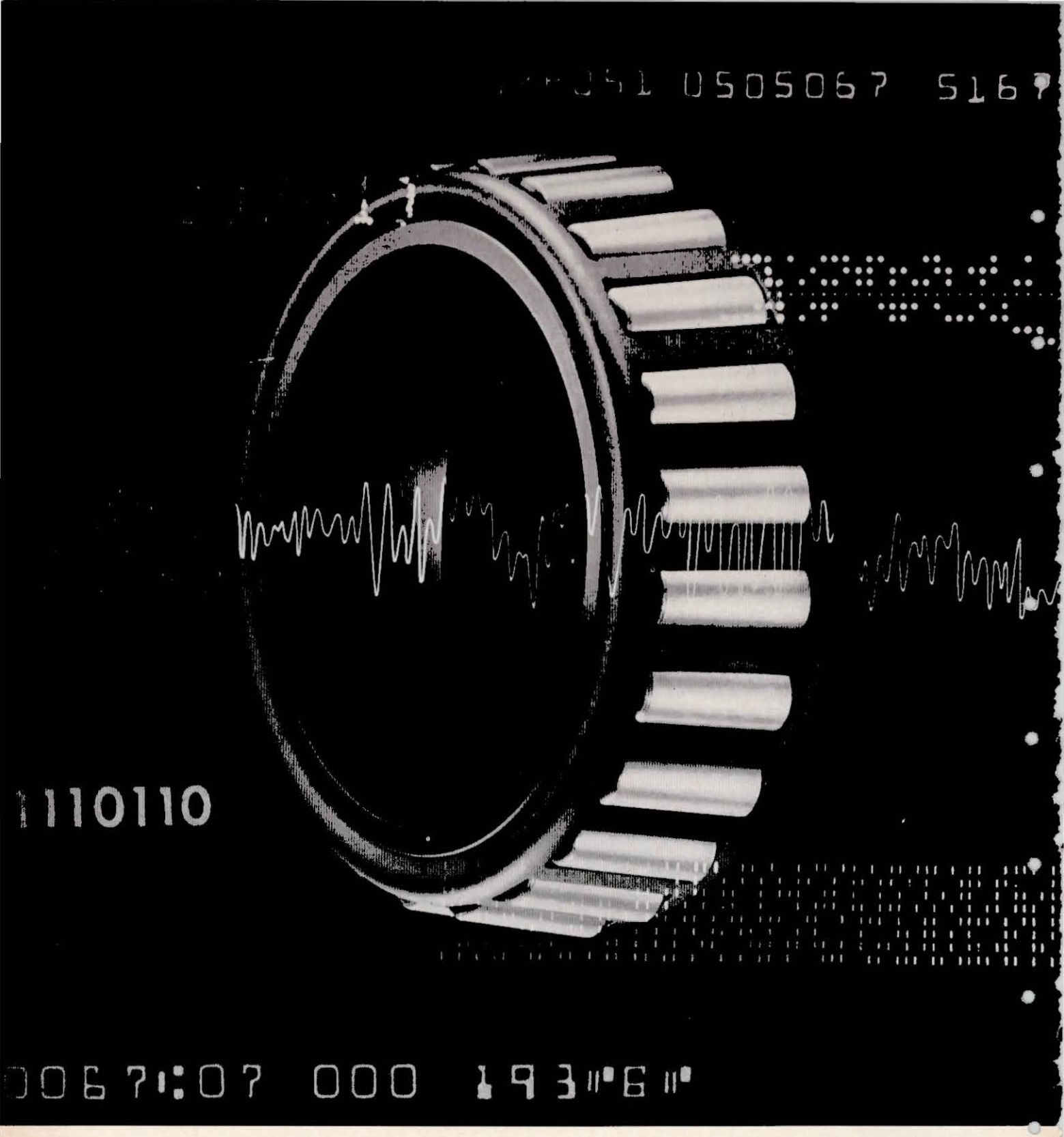
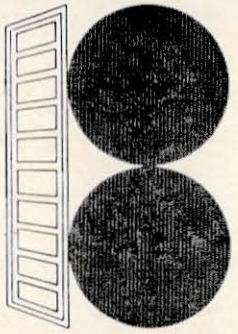
Railway Age, established in 1856, is indexed by the Business Periodicals Index, the Engineering Index Service and the Public Affairs Information Service. Name registered in U.S. Patent Office and Trade Mark Office in Canada.
Published weekly (except for four issues combining two-in-one) by the Simmons-Boardman Publishing Corporation at Third and Hunting Park Ave., Philadelphia, Pa.
Railroad employees' subscription rate, U.S. possessions, Canada and Mexico, $6 one year, $9 two years, all others $15 for one year, payable in advance and postage paid. To railroad employees elsewhere in the western hemisphere, $10 a year. In other countries, $15 a year. Single copies, 60¢ except special issues. Address all subscriptions, changes of address and correspondence concerning them to Subscription Dept., Railway Age, Emmett St., Bristol, Conn. 06010.
Change of address should reach us three weeks in advance of next issue date. Send old address with new, enclosing, if possible, your address label. Post Office will not forward copies unless you provide extra postage.

Circulation Dept.: John Rogers, Director of Circulation, 30 Church St., New York, N.Y. 10007. POSTMASTER—SEND FORM 3579 TO EMMETT ST., BRISTOL, CONN. 06010.
Printed at the Periodical Press, Philadelphia, Pa. Second-class postage paid at Philadelphia, Pa. and at additional mailing offices.



A modern bearing for a new Age...

Brenco *crown-taper* roller bearings are the most modern of all.



BRENCO, INCORPORATED
PETERSBURG, VIRGINIA

Circle 4 on coupon page 33

SHORT AND SIGNIFICANT

Shareholder approval of merger urged

Monon management is making a strong plea for stockholder approval of merger into Louisville & Nashville. Shareholders will vote at a special meeting Aug. 28. Monon Chairman and President Samuel T. Brown has high praise for L&N's management and the road's growth potential. He adds: "We also believe that the competitive position of Monon is such that it is necessary to affiliate with a large railroad such as L&N in order to maintain and enhance its equity value."

Biaggini replaces Russell on AAR board

Donald J. Russell, chairman and former chief executive officer of the Southern Pacific, has retired from the board of directors of the Association of American Railroads, on which he served for 16 years including 10 on the executive committee. He has been replaced on the board by Benjamin F. Biaggini, president of the Southern Pacific who was recently named to the additional position of chief executive officer.

CNJ will get 13 locomotives with state aid

The State Department of Transportation of New Jersey has approved acquisition of 13 locomotives from EMD for assignment to commuter service on the Central of New Jersey, which is in bankruptcy. Transportation Commissioner David J. Goldberg said the 3,000-hp units will be purchased by the Norfolk & Western, and the affiliated Chesapeake & Ohio/Baltimore & Ohio, and leased through the state to CNJ. He said the locomotives will be similar to 21 other units acquired by the railroad over the last three years. The selection of EMD was made on the basis of competitive bids, promised delivery dates and "certain operating advantages."

Paragon to become part of Portec

Portec, Inc.—which used to be Poor & Co. — has reached agreement with Paragon Bridge & Steel for purchase of Paragon for cash. Paragon is slated to become a division of Portec which will operate without change in management, with G. T. Innes as general manager. The acquisition will add to Portec's railway product lines as well as to its diversification. Paragon, based at Novi and Ashley, Mich., specializes in manufacture of auto racks, auto parts racks and auto-frame equipment and in fabrication and erection of structural steel.

Budd and Gindy agree on terms of acquisition

The Budd Co. and the Gindy Manufacturing Corp. announced last week that they have signed agreements providing for Budd's acquisition of the Downingtown, Pa., manufacturer of trailers and containers (RA, May 27, p. 7). Terms provide for the tax-free exchange of a minimum of 900,000 Budd common shares for all outstanding preferred and common shares of Gindy (which is privately owned), subject to the approval of Budd shareholders and a favorable tax ruling. During the fiscal year ended May 31, 1968, Gindy's sales totaled $32.2 million. Budd's sales last year were $330 million. Budd President Philip W. Scott said Gindy will be operated as a Budd subsidiary under its present management.

IC Industries' diversification moving ahead

Waukesha Foundry Co., 56-year-old manufacturer of precision castings and pumps, is slated to become part of Illinois Central Industries. Subject to the approval of Waukesha shareholders, ICI will acquire the assets of the Wisconsin-based company for 150,000 shares of ICI stock. Waukesha had a pre-tax net of $1.4 million last year on sales of $12.5 million. Waukesha will be the second major acquisition for diversifying ICI. The first: Chandeysson Electric Co., manufacturer of heavy electrical equipment. And, while ICI is expanding, so is IC Railroad—with acquisition, effective July 29, of full ownership of the Waterloo Railroad. IC and Rock Island had owned the 67-mile Iowa carrier jointly since 1956. RI got $775,000 for its half-interest, in a transaction which the ICC approved June 24.

MONDAY MORNING REPORT

ADVERTISING: WHEN — AND HOW MUCH?

Smart businessmen know that the time to advertise is when they're in trouble. With a rate-of-return of less than 3%, railroad men don't need to prove to anyone that they're in trouble. Last week they also proved (at least to the satisfaction of the professional image-builders) that they're smartening up. They raised their eyes from their own gloomy financial statements long enough to approve the biggest industry-wide advertising program in history.

THE AAR's $2.5-MILLION ANSWER

The ad program approved by AAR directors calls for expenditure of $2.5 million in the remainder of this year alone—or about two and a half times the total annual cost of the network-radio "Railroad Hour" (1948-1954), which was the industry's last big sustained campaign. The lion's share of the new money, about three-fifths, will go to network television. About one-fifth will go to full page magazine ads and the remaining fifth to radio. The campaign begins this month; it will get into full swing in September.

THE LONG, DRY SPELL

Between the "Railroad Hour" and last week's announcement, the industry's record in advertising was, at best, spotty. The big ad campaign of 1959 was an ad-hoc effort addressed to the work-rules crisis. In 1965, half a dozen ads made it into print, but the cardinal rule of advertising (persistence) was ignored by somebody and the $780,000 spent was an all-but-unnoticed drop in the Mad Avenue bucket. Last year, a $1.5-million program was cut off half way because some people in high places found both the artwork and the message fuzzy. So the on-again-off-again effort was off again. Meanwhile, the airlines and the trucklines were beating their own drums louder than ever.

HAPPY ENDING TO A SAD STORY?

AAR directors insist they have never doubted the efficacy of advertising; they have only questioned the efficacy of certain campaigns. Some weeks ago they asked that a new program be submitted. AAR Vice President James A. Schultz and his committee of top railroad p.-r. and ad men worked long and hard, and came up with a program that the board adopted unanimously. As Schultz puts it: "We feel it isn't enough to tell the people about the great advances in railroad technology and efficiency—we've got to put across the story of what it means to *them*, to their standard of living and their pocketbooks. This is what we are setting out to do." Will the program be sustained long enough to be effective? Judging by the current mood, the answer is a cautious—but hopeful—"yes."

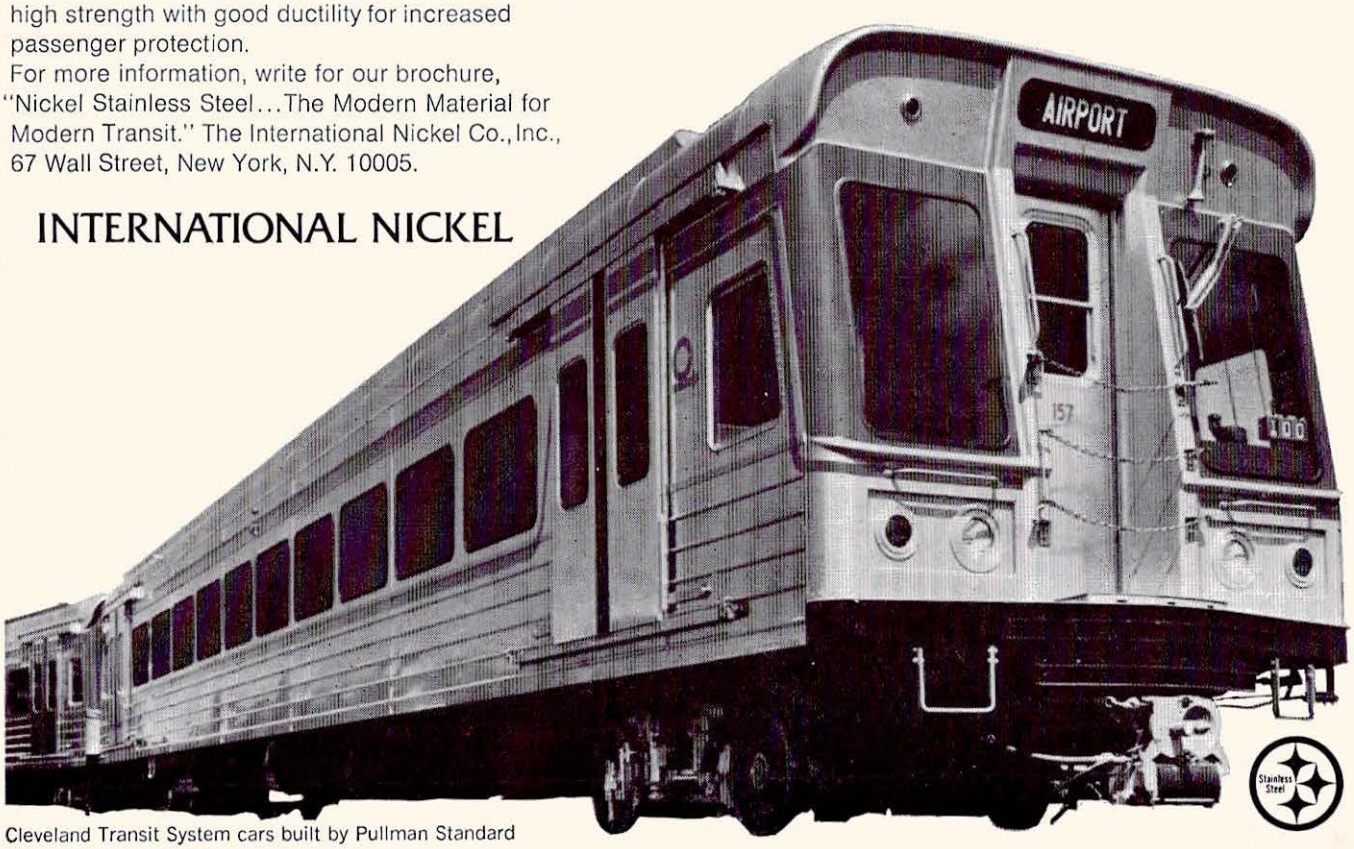
Fly to Cleveland's airport without leaving the ground. 22 minutes.

Another first. Cleveland passengers hop on a lightweight 55 mph nickel stainless steel transit car... and in 22 minutes are at the Cleveland Hopkins Airport. One more answer to the problems of rapid transit answered with nickel stainless steel.
Thinking rapid transit? Think nickel stainless.
It's corrosion-resistant and...

- durable
- extra strong
- readily fabricated
- easy to weld
- attractive
- easy to clean
- economical
- blends with other materials

What's more, it's safe. Nickel stainless steel combines high strength with good ductility for increased passenger protection.
For more information, write for our brochure, "Nickel Stainless Steel...The Modern Material for Modern Transit." The International Nickel Co., Inc., 67 Wall Street, New York, N.Y. 10005.

INTERNATIONAL NICKEL



Cleveland Transit System cars built by Pullman Standard

Circle 5 on coupon page 33

Some railroads don't need our oil.

Your diesels need our oil.

Our tough, dependable Gascon diesel lubricating oils.

Over 100 railroads are using them now.

And they've gone a long way with them.

Over ten billion miles! With cleaner engines. Longer filter life. And better over-all locomotive efficiency.

Stop playing around. Call collect. Or write us for information.

Your railroad is real.

Sinclair Gascon GL-XD

A dependable, long-time performer. With high lubricating ability. For low wear rates. And low maintenance costs.

Sinclair Gascon GL-Supreme

A highly dispersant lubricating oil. With excellent alkalinity retention. High stability. Resulting in cleaner engines.

Sinclair

Railway Sales New York Chicago-Houston

Railway Sales 600 Fifth Avenue, New York, N.Y. 10020 Phone: 212-246-3600

WEEK AT A GLANCE

Sylvania licenses WABCO to build ACI equipment

Sylvania Electric Products, Inc., manufacturer of the automatic car identification (ACI) system adopted by the Association of American Railroads last October, has agreed to license Westinghouse Air Brake (WABCO) to build the equipment. AAR President Thomas M. Goodfellow, announcing this last week, called the agreement "another milepost in the development of an industry-wide electronic system for the automatic trackside scanning and identification of passing freight cars." In a joint statement, Richard L. Shetler, Sylvania senior vice president-information systems, and C. D. Howell, WABCO vice president and general manager of its Signal and Communications Division, said the agreement grants WABCO the right under Sylvania's patents to manufacture and market the approved system. The Sylvania system is called KarTrak.

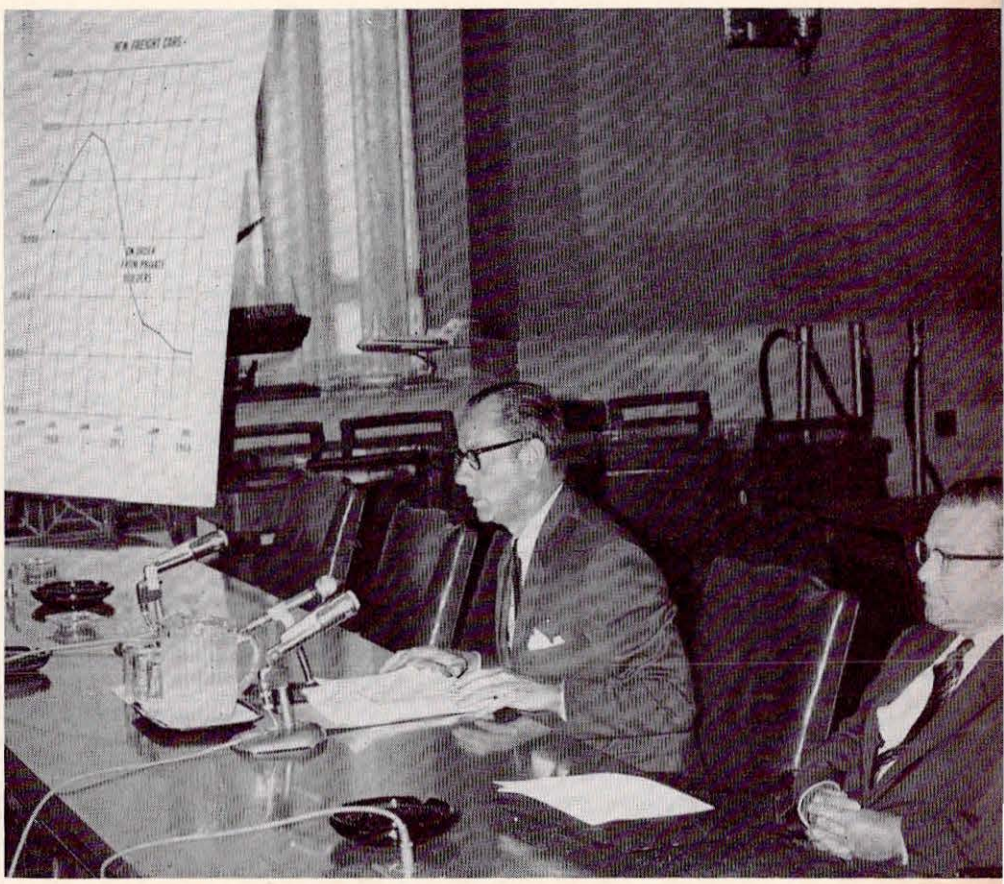
R. E. Budorick named president of REALCO

Robert E. Budorick last week was elected president, chief executive officer and a director of REALCO (REA Leasing Corp.). Robert G. Fuller was named board chairman. Robert H. Johnson and Ray H. Jordan also were elected to the board. All three are voting trustees of the parent company, REA Express (which Jordan heads). Formerly vice president and general manager, Budorick joined REALCO in July 1961. The company now has more than 13,000 trailers and containers in service. More than 70 railroads are members of REALCO.

Suppliers back the railroads on train-offs

As Congress rushed toward a Convention recess, a Senate Commerce subcommittee continued to amass pro and con testimony on legislation that would tighten present passenger-train-off laws pending a broad study of the need for a national rail passenger system. The most graphic opposition testimony came from the Railway Progress Institute. Chairman W. Ashley Gray, Jr. (pictured addressing the hearing as RPI President Nils Lennartson looks on) warned: "The problems facing the railroad and supply industries now are critical. Unless they are solved railroads may be permanently crippled or may ultimately require huge public subsidy. The cash flow that is now being drained off in unwanted and unused passenger service must be freed up."

Another witness, AAR General Counsel William M. Moloney, suggested that the ICC already has ample power to deal with train discontinuances—and used it in refusing to permit abandonment of the "California Zephyr."



GUS WELTY

LINES ON LABOR

WHAT DOES A UNION MAN DO when he's angry with his union? In Chicago, at least, he goes on strike and ties up the operations of his employer, the more-or-less innocent middleman in the whole affair.

CHICAGO TRANSIT AUTHORITY was the first to be hit by union dissidents rebelling against their own union leadership. REA Express was next. In both cases, the strikers claimed certain grievances against management—but the main gripe was against the union. CTA bus drivers, most of them black, lashed out against white leadership. REA employees, once represented by the Teamsters but now by the Brotherhood of Railway and Airline Clerks, charged that BRAC wasn't doing right by them in handling grievances.

MANAGEMENT was on the hook. So was the public, especially in the walkout against CTA. There was a bind, and there wasn't any real or lasting or equitable way out of it. In the REA strike, even a court order did not have much immediate effect. In the CTA strike, Richard J. Daley, mayor and mediator, finally got the drivers back to work—while leadership of the Amalgamated Transit Union looked darkly upon both Daley and CTA management for their dealing with the rebels.

BLACK POWER was a CTA issue, more-or-less coincidentally. A majority of CTA's working drivers just happen to be black. Union leadership is white, and the dissidents charge that it stays that way because dues-paying pensioners, almost all of them white, may vote in union elections. A working majority apparently is a voting minority.

THE REA EXPRESS case seemed relatively simpler, with all the earmarks of a jurisdictional battle, pitting the old union against the new. But each case poses deeper questions. For instance: Is union "democracy" sometimes a sham? Do minorities, of any description, get adequate representation? Are dissidents merely in love with dissent, and the attention it draws?

FINALLY if dissidents have to call public attention to their problem, how do they do it? If memory serves, the patriarch of the AFL, Samuel Gompers, always cautioned that the last thing a union or a union man should do is to alienate public support and sympathy. Ergo, no matter how strong the dissidents' case, a strike isn't the way to win it. Striking, in cases like these, is discrimination compounded. But what's the alternative?

One strike, One threat, One settlement

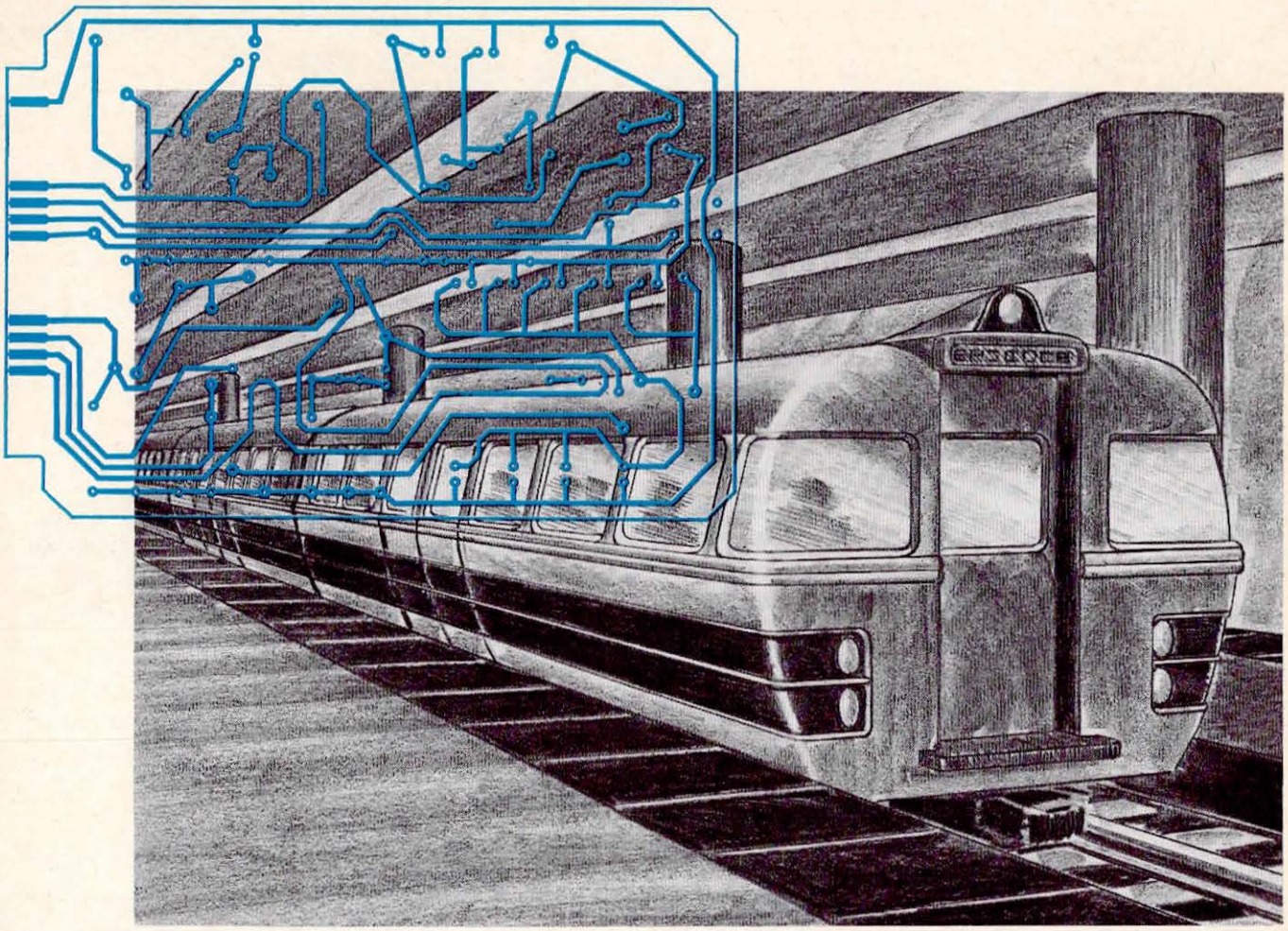
Last week had a little bit of everything on the rail-management labor front. The Brotherhood of Railroad Trainmen struck the Belt Railway of Chicago in a crew-consist dispute, Illinois Central and the Brotherhood of Locomotive Engineers were in court over a threatened strike, and the Switchmen's Union of North America settled a wage-rules dispute generally along the lines of agreements reached previously with six other organizations.

BRT's walkout on the Belt had the most immediate impact—tying up operations completely, forcing trunk-line roads into alternate interchanges, and leaving 310 industries completely without rail service. The strike, involving 425 switchmen, began at 9 p.m. on July 29. Members of other unions honored BRT picket lines and the Belt was left with (1) supervisory crews trying to move perishable traffic, and (2) management hoping that an emergency board would be created. The dispute centered on BRT demands that one-and-one crews be upped to one-and-two consists. Belt had offered additional pay to men working one-and-one. Five trunk-line roads are under similar pressure from the BRT, including Illinois Central and Chicago & North Western in the Chicago area. But the Belt was the one which was hit. Settlement procedures, under the Railway Labor Act—aside from consideration of the case by an emergency board—had been exhausted.

While Belt was shut down, IC was in federal court with the BLE in a dispute related to IC's training of supervisory personnel in train operations. For the railroad, it was a matter of preparation—in view of the crew-consist pressures being applied by the BRT. But the Engineers threatened a strike, and Grand Chief Perry S. Heath issued a broader warning that "wherever a locomotive runs on rails, it will be run by a qualified locomotive engineer, or it will not be run at all."

The week's break from controversy came with SUNA approval of the pattern-wage rules settlement, which includes a no-strike moratorium stretching on to Jan. 1, 1970. SUNA members will get 11%-plus in four steps, two of them retroactive. With the Switchmen's action, the two-year moratorium now extends over unions representing about 60% of all rail employees. Five nonoperating unions and the BRT previously approved the pattern.

BASIC HARDWARE



...COMPLETE SYSTEMS

GRS covers the entire rapid transit field.

Look to GRS for *all* your rapid transit signaling needs—not only complete systems, but also basic hardware items—everything you need to satisfy present and future requirements.

- Essential hardware items—signals, switch machines, control consoles, and a host of other devices.
- Custom-engineered, solid-state control systems on any level of sophistication—from simple speed control to complete automation.

With GRS, you get systems that ensure high-speed travel with absolute safety and reliability—systems that are based on well over half a century of rapid transit experience.

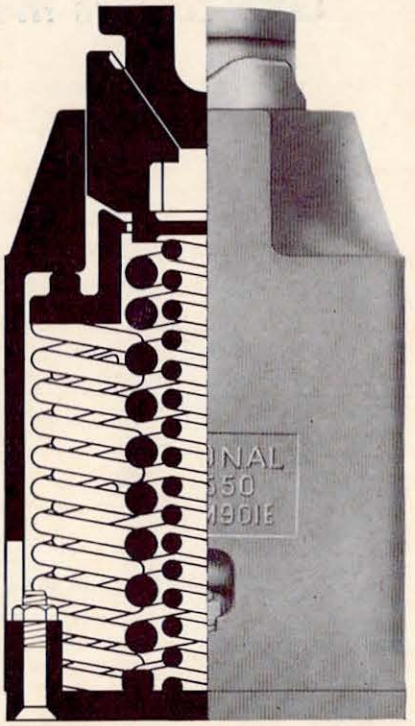
MEMBER RPI RAILWAY PROGRESS INSTITUTE 3450

GENERAL RAILWAY SIGNAL COMPANY
A UNIT OF GENERAL SIGNAL CORPORATION

ROCHESTER NEW YORK 14602 ATLANTA BOSTON CHICAGO MONTREAL NEW YORK OAKLAND ST LOUIS ST PAUL

NEW NATIONAL FRICTION

NC 5



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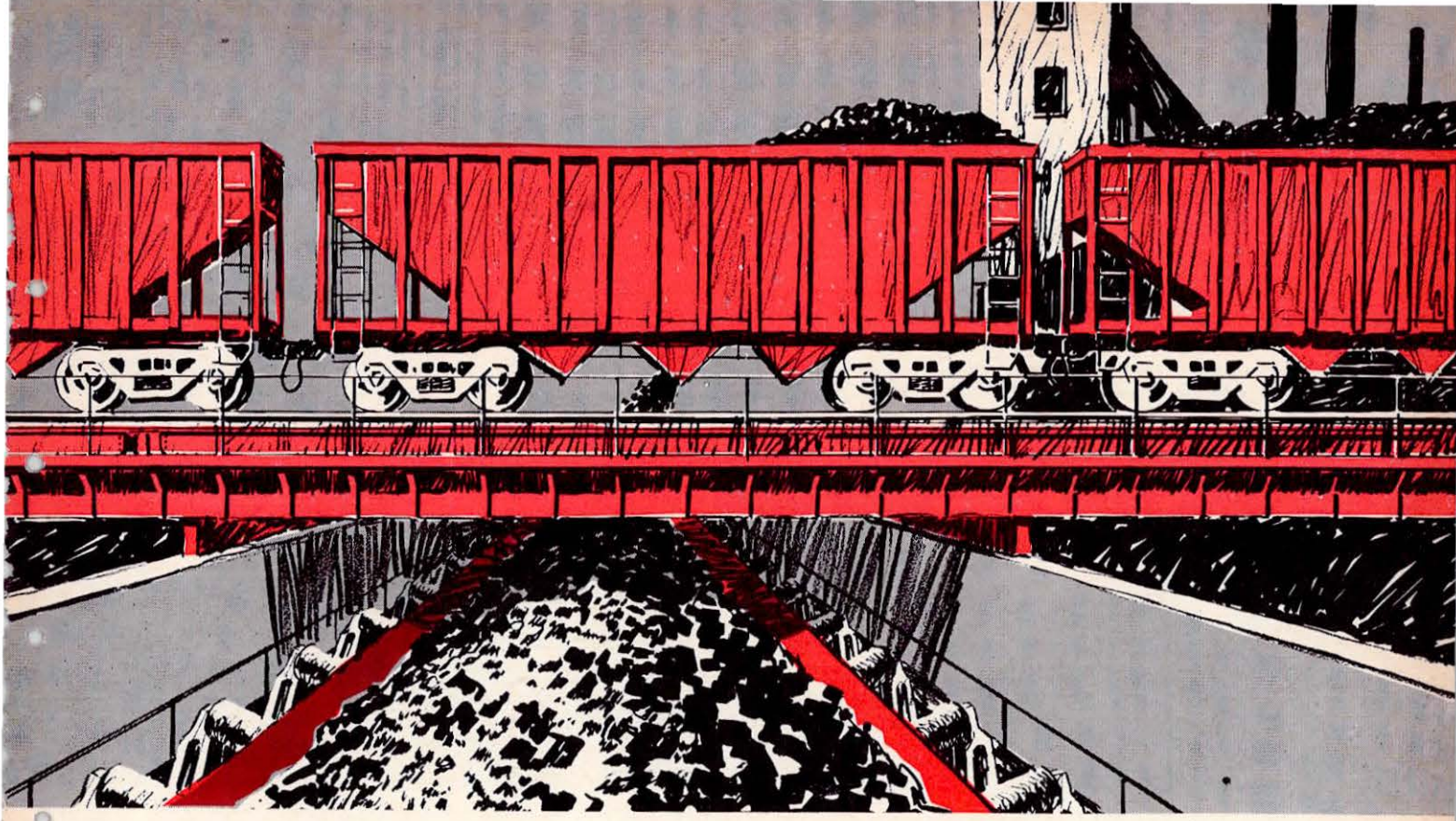

GEAR 50

FOR HEAVY DUTY M-901-E AND SPECIAL APPLICATIONS

Meeting or exceeding all requirements of A.A.R. Specification M-901-E-62, National's NC-550 all-steel gear has been granted Certificate of Test Approval No. 47 by the A.A.R.

NC-550 is considered an ideal draft gear for those new cars in which a friction type gear is preferred. In addition, NC-550 can be used as a replacement for any other type of gear required to comply with M-901-E.

Developed and extensively pretested at National's Technical Center, NC-550 achieves maximum performance with minimum wear. This is achieved through an improved three-shoe friction clutch mechanism combined with steels having a balanced combination of optimum surface hardnesses. Another unique feature of the NC-550 gear design is a self-adjusting mechanism which equalizes bearing on all friction surfaces when gear is compressed to insure smooth uniform gear action. This feature alleviates sticking of the friction system and facilitates release after gear compression. NC-550 Gears have a capacity of 39,700 ft-lbs at 658,000 lbs force and 3.29 inches A.A.R. rated travel.

NC **NATIONAL CASTINGS DIVISION**
Midland-Ross Corporation MR

10600 QUINCY AVENUE • CLEVELAND, OHIO 44106

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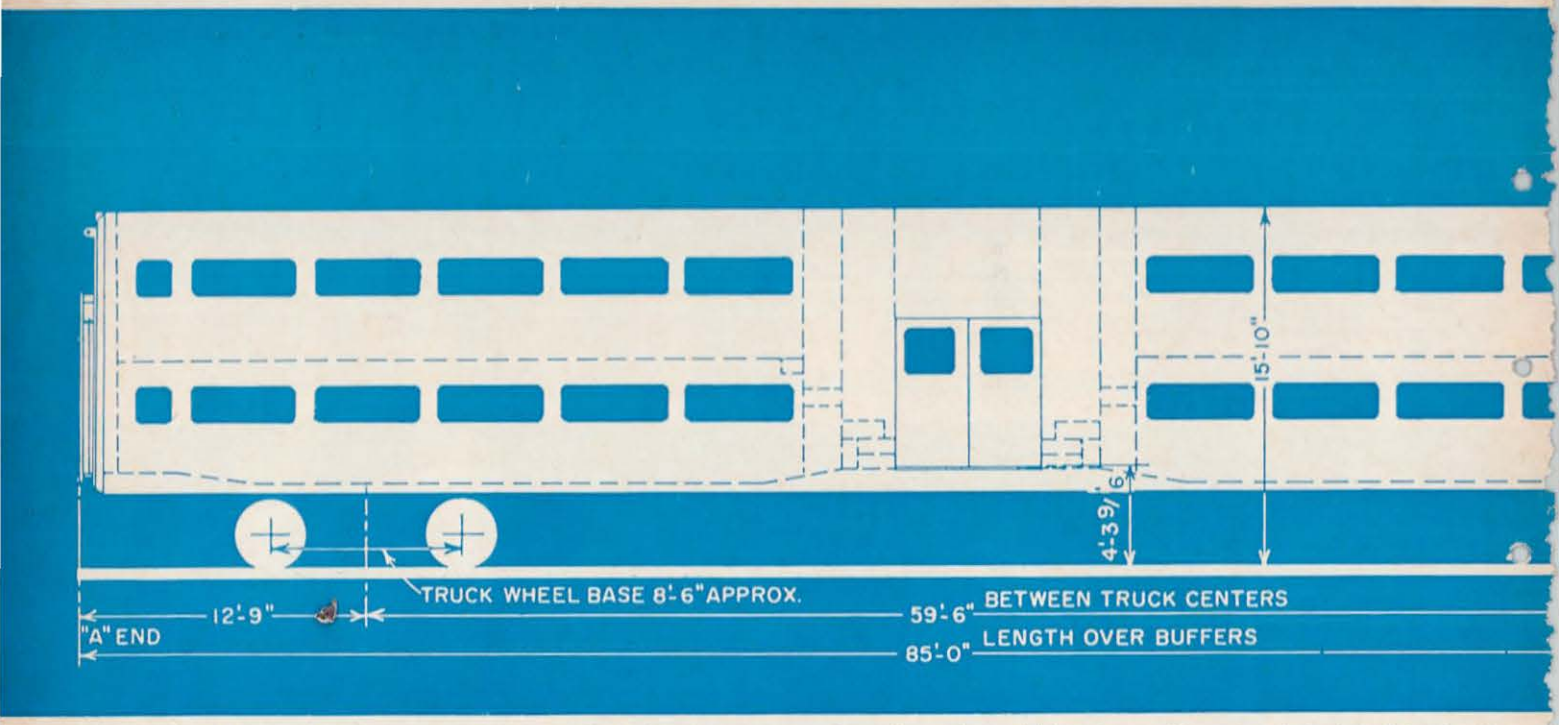


HIGH-CAPACITY car seating 152, an 80% boost over present equipment, would be air conditioned and designed for loadin

IC proposes bi-level electric

Problems of new equipment for Chicago electrified lines are mainly financial, not technical.

By **ROBERT BARTLEY**
Associate Mechanical Editor

The fate of new commuter equipment to serve the Illinois Central's 37,000-40,000 daily commuters in the Chicago area is now riding on the outcome of a 16-pound package prepared for delivery to the U.S. Department of Transportation.

The complete package, under review by various government and transportation agencies in Chicago in recent weeks, is expected to be delivered to DOT early this month, according to an announcement last week.

The weighty package, containing equipment drawings and specifications plus necessary support data, is accompanying a request for federal financial participation in an estimated $36-million capital expenditure program. Favorable and early action on the request could put 120-130 gleaming new suburban cars on the IC's three-line system by late 1969 or early 1970.

Since only local governments or other official governmental bodies—and not transportation companies—are eligible for federal grants under the 1964 Urban Mass Transportation Act, the 11-member Chicago South Suburban Mass Transit District is actually applying for the grant. The District, thwarted in an earlier attempt to raise the essential local matching funds through the issuance of revenue bonds, has, since then, made arrangements with the IC for the railroad to advance funds to assure sufficient cash to cover the local share.

With this assurance that it could meet the terms of the Transportation Act, the District was able to make plans to seek federal aid.

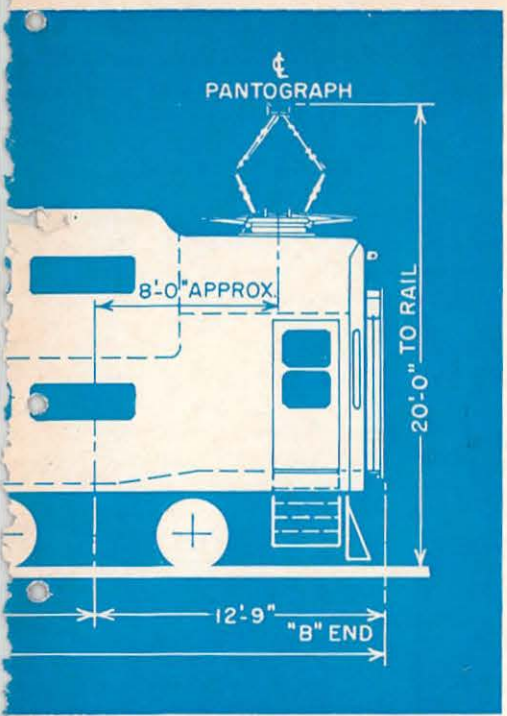
● **Heartening outlook.** How long the IC commuters must continue to make their way to and from Chicago's Loop in the road's present 274-car fleet of 41-going-on-42-year-old coaches will depend upon the speed at which the problem of the knotted purse strings is resolved. Beyond that substantial hurdle, however, the outlook is more heartening. Despite the lack of assurance that suitable financing arrangements will be made, the IC's mechanical department has been getting itself poised and ready to take action without a moment's delay.

IC engineers, in cooperation with the road's passenger department as well as with transit district officials, have been checking out existing equipment designs and conducting compatibility studies to determine what type of equipment would operate with the greatest reliability on the road's electric-powered system. Furthermore, according to R. J. Chinn, IC's mechanical engineer, a considerable amount of pioneering work is being done in some heretofore unexplored car design areas.

On the basis of the studies and mechanical investigations, IC engineers have been able to prepare drawings and specifications for the proposed cars. These plans not only are accompanying the application for the federal grant but also, to further forestall any delays, copies have been sent to three major carbuilders for a preview look, with the understanding that they are for a proposed, not firm, design.

"We don't know when, or for that matter, if the funds are forthcoming, but that is not stopping us from trying to eliminate any potential problem which could delay the eventual appearance of the new cars on our lines," says Chinn.

● **Pleasant surprises.** Until the funds are assured, IC commuters will have to be patient, hold the rein on their hostility index and try to maintain their "cool" while riding the present fleet of non-air-conditioned cars. They might draw some consolation, however, from knowing what may be in store for them come 1969. As the IC engineers picture



and unloading at high-level platforms.

M-U's

the cars, the riders are in for some pleasant and comforting surprises.

First of all, the proposed cars will be double-deckers, or gallery type, 85 ft. long, 10 ft. wide, and 15 ft., 10 in. high. They will be air-conditioned, and there will be seating capacity in each car for 152 persons, about an 80% boost over that of existing coaches.

To Paul H. Reistrup, IC's vice president-passenger services, who is determined to see the IC create "the world's finest commuter operation," the double-decker design represents the best opportunity to move the greatest number of people seated in comfort in and out of the Loop area, yet on the speedy and frequent schedules typical of the IC's present operations.

● **Tough act to follow.** Old though they may be, and though lacking in many of the comforts of modern transportation equipment, the coaches now operating on the IC make up a tough act to follow. They're dependable—over 95% of the trains run on time. And they accelerate and decelerate at speeds comparable with today's modern suburban trains, including those composed of double-deckers. For instance, one special morning rush-hour train makes its 30-mile run to the Loop in 44 minutes, with seven intermediate stops.

The old cars are really mechanical and structural marvels (after all, how many of their contemporaries—the Model T Ford—do you see plying the nation's highways these days?). It wasn't easy for IC engineers to draw up plans and specifications for new cars that would surpass the older cars' operating capabilities. But they feel they have.

In general outline, the IC cars will be similar to double-deckers operating in the Chicago area on the Chicago & North Western, Milwaukee, Burlington, and Rock Island, and on the Southern Pacific.

● **World's first.** However, because the IC's will be the world's first electric-powered double-deckers and because they will be designed for platform loading and unloading at the road's 40-odd commuter stations, they will be unique in many ways.

When the new cars make their initial appearance, IC commuters will have to change their commuting habits. Accustomed to jockeying for platform position so as to crowd into the present coaches through doorways leading to end vestibules, they will be boarding through a main doorway near the center of the cars, plus through another smaller side entrance at the cab end of each car. The additional 3-ft. side entrance will be available on all but the leading car when loading takes place from the right side of the train. When loading from the left side, even the smaller entrance on the leading car will be available.

The main doorways, one on each side of the car, will have their leading edges just about on the centerline of the car. These doorways, 6 ft., 6½ in. wide and equipped with sliding doors, will lead into a brightly-lit stainless steel main vestibule. Overhead and concealed behind attractive ceiling panels in the vestibule will be the two 8-ton air-conditioning units.

Center entrances

Double sliding doors at each end of the vestibule will open into the two passenger compartments. On the lower level of the front compartment, there will be seats for 48 passengers. Meanwhile, the upper level, reached by a pair of stairways located inside the doorways, will have seating for 28.

In the rear compartment, the lower level will seat 44, the upper level, 32. All the first level seats will be arranged for transverse seating. In the upper front section, there will be 16 transverse seats and 18 theatre-type side seats which will swing up under spring tension when not occupied. On the upper level in the rear section, there will be 14 transverse single seats and 18 theatre-type side seats.

IC engineers are now thinking of installing fixed, rather than throw-over seats, with the passengers in each compartment facing the car's center vestibule. However, for the benefit of card-players, each compartment would have two of the 2-passenger seats facing in the opposite direction.

● **More comfortable.** In explaining the choice of fixed seats, Chinn said, "We feel we can provide greater comfort for riders if we have contoured seat backs permanently anchored in one position. Each of the transverse seats will take up about 33 inches, and we want to use this space to make the passenger as comfortable as possible."

Once seated in the new cars, IC commuters will have to shrug off some of their old commuting habits. On hot, muggy days, it is the custom to throw open the windows for air circulation in the existing cars. But, in the proposed cars, because they will be air-conditioned, the windows will be permanently sealed. The air-conditioning system, which will circulate a mixture of 20% fresh air, will keep the temperature at a comfortable 70 degrees.

During the cold months, electrically-heated air will be circulated through the main air ducts, plus through side wall-mounted ducts.

Another old habit, that of drawing the shades on bright, sunny days, will have to be dropped when the new cars appear. The double plate windows in the new cars (safety plate on the inside, heat-absorbent plate on the outside) will have a graduated shaded hue.

● **Special appearance.** Styling of the interiors, as well as the exteriors, of the 120-130 cars will be handled by a special consulting firm. However, in the interest of blending ease of maintenance with esthetics, the IC engineers have specified certain standards.

Interior walls, bulkheads and ceilings will be made of melamine. Window trim will be of moulded fiberglass with stainless steel on the sloped sill of each window. Flooring will be rubber, stairways leading to the upper levels will be stainless steel, and the luggage racks overhanging the first level's aisleway and fitted to the second level's modesty panel will be aluminum. Second-level riders will have melamine-faced aluminum racks located on the ceiling's centerline.

Whereas incandescent lighting will be used in the main vestibule, in the passenger compartments fluorescent lighting will be provided. A decision on the use of advertising cards in the cars has not yet been made. Likewise, the choice of type, color and pattern of material for the seats will be made by the styling consultants.

Exterior styling will depend upon the type of material chosen for the cars. IC engineers, in their thoroughness, have prepared specifications for de-

"Our lines move 1,000 persons per minute out of Chicago's loop area during rush hour. With double-deck cars, we will be able to move these people easily and they will be seated in comfort."

P. H. Reistrup
Vice president—
passenger services

signs made of aluminum, stainless steel and low alloy-high tensile (LAHT) steel. According to Chinn, if either aluminum or stainless steel are chosen, the specifications provide for two colorful stripes, with the name "Illinois Central" and the IC's heralded divided rail corporate symbol appearing in a prominent location.

If LAHT steel is chosen, the cars will be painted with the IC's pheasant breast colors—brown, orange and yellow. Two of the three colors will make up the basic scheme, with the third used sparingly for highlights.

● **Look alikes.** With the exception of a few minor wiring alterations involving door controls and destination signs, all the cars ordered will be alike. Since the IC does not have any turnaround facilities at either its Loop terminal or at the ends of the 29.33-mile Richton, 18.91-mile Blue Island or 13.04-mile South Chicago runs from the Loop terminal, it has decided to arrange the double-deckers on the system so that all odd-numbered cars will always have their cars facing south, all even numbered ones, north.

The odd numbered cars will have their door controls and destination signs wired just the opposite of even numbered cars. This will be done so that when a train composed of both odd and even cars pulls into a station which has its passenger platform on, for instance, the right, the conductor will be able to open or close all the doors on the right side of the train by engaging one control button. Likewise, all the destination signs on one side of a train consist can be lighted properly from the cab.

● **Safety setup.** As an added measure of safety, an interlock system will be employed whereby the doors will be inoperable until the train reaches zero speed when arriving at a station. Similarly, the train will be unable to depart from a station until all the doors are closed.

Currently, the IC coaches cover the 29.33-mile distance between the extreme Richton Park station and the Randolph St. terminal in the Loop in as little as 44 minutes. To improve upon or at least equal this schedule, the new double-deckers will be powered by motors rated at about 175 hp per truck. IC engineers are shooting for an acceleration speed of 1.75 mph/per sec. with a balanced speed of 75-80 mph, and maximum operating speed of about 70 mph. The target deceleration speed is 2 mph/per sec. using service braking, and 2.5 mph/per sec. in emergency braking. Both accelerating speed and braking effort will exceed those of existing coaches. Also, operating speed will be somewhat higher. Each truck will be equipped with dynamic brakes supplemented by air brakes.

For added braking control, hydraulic pneumatic booster units will be used to supply hydraulic pressure at the truck-mounted brake cylinders at each wheel. Furthermore, hydraulic hand brakes will be standard equipment. These brakes are designed to lock mechanically should a leak develop and cause a drop in hydraulic pressure.

● **Pioneering.** Because the trucks, truck area and the traction system will be unlike anything ever encountered before in gallery type cars, IC engineers have been required to perform some pioneer work. In seeking optimum truck stability along with riding comfort, the designers have specified a design with outside swing hangers as well as outside 6½ x 12 roller bearings.

Early in their work on the trucks, the engineers were fearful that they might be restricted to use 33-in. wheels so as to secure proper clearance between the car body and the traction motors and double reduction gear housings. However, through some ingenious design alterations they were able to fit in all the tractive components, avoid interferences, and still use the more desirable 36-in. wheels. At the same time, the design specified will not necessitate any sacrifice of interior space.

While the proposed IC cars will bear a similarity in general configuration to existing double-deckers, there will be one prominent difference caused by the traction system and, more directly, by the power collection system. Since the cars will be operating over existing electric-powered lines using the available 1,500 VDC catenary system, pantographs will be installed in the roofs. Each car will have one pantograph, equipped with an air cylinder for lowering and spring-loaded for raising, with its centerline 4 ft. back from the cab end of the car. "Ideally, to minimize swing of the collector arms on curved tracks, the pantograph should be located on the centerline of the trucks, which is about 12 ft. back from the end of each car," advised Chinn.

"However, if we had followed this rule of thumb, we would have been forced to sacrifice 10 seats in the upper level of each car," he added.

The pantograph will be in a roof offset extending back about 8 ft. from the end of the car. When lowered into its folded position, the pantograph will occupy 7 ft. 4 in. of the 8-ft. roof offset. When raised, its maximum working height will be 20 ft. off the rail.

Controls for the pantograph as well as for the car's automatic hook-type

"Since ours is an electrified system, we've been doing some pioneering work in the area of tractive effort for the proposed gallery-type cars."

R. J. Chinn
Mechanical engineer

couplers, independent cab side door operation, certain safety devices and power and braking operations will be in the engineer's cab. In addition, the cab will be equipped with a speedometer, and a radio for maintaining constant contact with a base station. Existing cars on the IC lines are not equipped with either of these items.

Engineers on other Chicago railroads and on the SP operate their double-decker trains from cabs located on the upper level. The IC engineers will operate their trains from a cab on the first level. Both necessity and convenience dictated the first-level location.

The roof offset for the pantograph helped sway the decision to choose a first-level location. Also, with the cab on the main level, the engineer will be in a more convenient spot for de-boarding at terminal points or for hostling care at terminal yards. Steps for de-boarding at non-platform locations have been specified on the left side of each car at the smaller side doorway.

● **Catenary system.** Car details with emphasis on passenger comfort, operating reliability, maintenance ease and general attractiveness have been concentrated on heavily by the IC design engineers in developing plans for the proposed double-deckers. However, another vital aspect of making preparatory plans for the new equipment has also received close attention—the catenary system which will serve as the power source for the trains.

As it exists now, the 1,500 VDC catenary arrangement will not be totally compatible with the proposed cars. Some sections of the catenary system, predominantly in outlying areas, are 22 ft. high, and will be lowered to 20 ft. or less. Except at terminals and at some stations where speed will not be a critical factor, the IC is planning to maintain a catenary height in the 16-ft., 6-in. to 20-ft. range.

The "tunnel," that portion of the system at the Randolph St. terminal and beneath Chicago's Prudential Building, has a catenary height of only 16 ft., 3 in. However, IC engineers do not anticipate any problems because this is a low-speed area. Since the double-deckers will be 15 ft., 10 in. high, there will be ample car clearance.

● **"Best commuter operation."** Acquiring a new fleet of commuter cars is the first step, and certainly the most important one, in the IC's quest for establishment of "the best commuter operation in the world." Other planned steps in the road's previously announced Commuter Advance Program (CAP) include: (1) reduction in the number of inner-city stations; (2) simplification of the fare structure; and (3) coordination of operations with the Chicago Transit Authority. The CAP program will be coordinated with a proposed study of urban mass transportation in south Chicago and other communities along the southern tip of Lake Michigan by S.T.A.C. (Southward Transit Area Coordinating Committee).

"Getting new commuter equipment for our riders takes the top priority position in our CAP plan," Reistrup emphasized. "The other points in the plan, while of great importance, will not be acted upon until we see the results of the S.T.A.C. study and until the Illinois Commerce Commission makes recommendations for action."

The Chicago South Suburban Mass Transit District will be the official owners of the cars should DOT act favorably on the application for the federal grant. (Effective July 1, administration of the 1964 Urban Mass Transit Act was officially transferred from the Department of Housing and Urban Development to DOT.)

If the application for the federal grant is approved and the transit district does become owner of a spanking new fleet of double-decker commuter cars, then the IC, which cast itself in the role of landlord last year when it introduced its "rent-a-train" concept for movement of grain from central Illinois fields to export ports, will be sending rather than receiving rent checks. However, since the IC will actually be advancing the money to cover the district's costs in purchasing the equipment, the leasing agreement will call for a nominal yearly payment—specifically, one dollar per year.

Having touched all bases in settling the myriad design and mechanical details for placing the nation's second largest fleet of double-decker commuter cars in operation, all the IC can do now is sit back and wait for favorable action in Washington. At the same time, the IC's 40,000 riders can sit back in their 41-year-old rattan seats—if they're not standees, that is—and dream, too, of new cars by 1969 or at least by early 1970. ■

More bi-levels for C&NW, SP

New double-decker commuter cars, mere gleams in the eyes of the Illinois Central and its 37,000-40,000 Chicago area commuters, are in various stages of becoming gleaming realities for two long-time double-decker operators—Chicago & North Western and Southern Pacific.

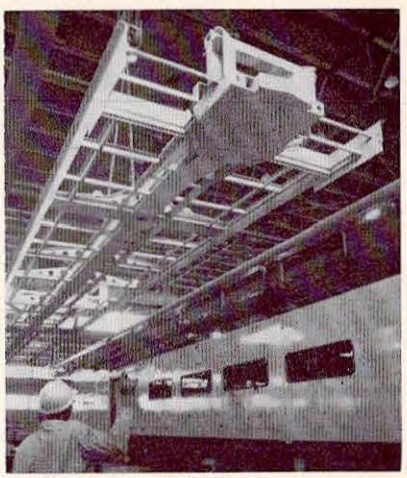
Both roads now have the gallery type cars in production at Pullman-Standard's passenger and transit car plant in Chicago. C&NW, already the owner of the world's largest fleet of double-deckers, has started to receive its 20 cars (4 cabs, 16 trailers). The SP, meanwhile, has 15 cars under construction at the P-S plant.

Upon receiving delivery of the $3-million-plus order of cars, the SP will have a fleet of 46 double-deckers to serve its 24,000 daily San Francisco passengers.

The $3½-million C&NW order will boost the Chicago-based road's ownership of double-deckers to 267 cars and raise its total investment in commuter operations since 1956 to about $58 million. In serving Chicago's west, northwest and north suburbs, the C&NW hauls 84,000 passengers daily, and does it in a rather unique way — at a profit. Last year, the road netted $2½ million from its commuter operations.

The C&NW readily admits that double-deck cars, like those now in production at the P-S plant, have played a major role in the success of its operations. They have a unique capacity for mass movement of passengers and, at the same time, offer comfortable surroundings, a C&NW spokesman explained. Furthermore, he added, they're less expensive to operate.

Like the airlines, the C&NW bases its equipment purchase program on projected growth determined by market analysis. For instance, the decision to acquire the new cars nearing completion at the P-S plant was made several months ago, before standees began appearing on the road's steadily growing commuter operation.



BI-LEVEL for C&NW nears completion in P-S shop as underframe for SP car is placed for assembly.

LIGHTWEIGHT passenger cars can be handled at high speed and accelerated rapidly by single medium-power locomotive.

MEAL SERVICE concepts on Tempo eliminated diner.

"Tempo" cuts costs, beefs up traffic

New cars break with tradition on several counts; trains run through southwestern Ontario

North America's newest intercity passenger trains are not the often-delayed Metroliners or TurboTrains. Instead, the continent's newest services are represented by the five sets of new equipment which have recently gone into service on the southwestern Ontario lines of the Canadian National.

"Tempo—first of the inter-city commuters" is the way CN has chosen to designate its new service (RA, June 10, p. 9). And Tempo, according to a CN passenger officer, "was designed for people who want to travel quickly and comfortably between major cities—and do it with a minimum of bother, baggage and expense."

● **Corridor extended.** The areas served by the five new Tempo trains are actually extensions of Canada's principal Montreal-Toronto travel corridor. The trains' routes extend westward from Toronto to Windsor (opposite Detroit) and to Sarnia (opposite Port Huron, Mich.). The densely populated region has always been served by extensive CN conventional train schedules. The road feels that highway congestion in southwestern Ontario is particularly favorable to its new trains.

The routes are the 180-mile run from Toronto via Kitchener and London to Sarnia, and the 230-mile operation via Brantford and London to Windsor. In its initial stages, at least, the Tempo equipment has replaced conventional trains on exactly the same schedules.

● **No results yet.** According to G.R. Conaway, CN regional passenger sales manager at Toronto, it is still too early to assess the results from the new train which went into service approximately six weeks ago. To date, passenger comments have indicated a positive response to the facilities and mode of operation introduced with the new equipment. And CN finds a definite preference for the new trains, compared with those of conventional equipment which still provide some of the southwestern Ontario services.

Such passenger reaction confirms the expectations of CN planners who hoped to raise the standard of service while making possible significant operating economies. CN worked closely with Hawker Siddeley Canada, builder of the 25 cars, in their design and arrangement. Delivered in May were 15 of the 82-seat coaches, 5 39-passenger club-cars, and 5 16-passenger coach-cafe-lounge cars. The lightweight aluminum cars weigh about 90,000 pounds each, approximately a 35% reduction from the cars previously used. This has made possible an immediate cost saving because the usual five-car train can be handled at high speed by one relatively low-powered (1,800-hp) diesel locomotive. CN has also been able to eliminate conventional dining and baggage cars, along with the steam generator cars which are normally used to heat CN passenger trains.

● **Pressure today.** Says D. V. Gonder, CN Great Lakes Region vice president, "The pressure today is for fast transportation from the heart of one major city to the heart of another with as few intermediate stops as possible. The train that meandered leisurely from one city to another, stopping at every small community along the way, is gone."

Accordingly, most station stops are kept to two minutes or less. CN stresses the tight schedules on which the Tempos operate. A normal Tempo train consists of the single locomotive unit, one club car, three coaches and one coach-cafe-lounge car. The 1,800-hp units, built by Montreal Locomotive Works, each have a separate 350-kw diesel alternator in the short hood for train power and electric heating. Each unit is also fitted with dual controls so that no turning is necessary at the end of the relatively short runs.

Meal service is also designed for high-speed inter-city commuting. Dining trays at each seat and microwave ovens reduce the time and space needed for food preparation. Uniformed stewards serve full-course complimentary meals to passengers in the club car. The cafe section of the coach-cafe-lounge car is the food service area for all coach passengers. This section has a food display area and take-out counter for sandwiches, beverages and a single hot meal selection. Microwave heating is used for hot food preparation. All cafe foods are served in containers which may be used at the stand-up counter in the food service area or at the trays in the backs of all the coach seats.

No baggage car

The food service section of the car is located at its center with the lounge at one end and a coach section accommodating 16 passengers at the other, along with a 350-cubic-foot space for checked baggage along the passageway to the vestibule. Baggage cars are not part of Tempo trains and checking is handled on board. The lounge area, separated from a side passageway by a decorative partition, contains nine small tables seating two and four persons.

● **Conventional coaches.** Coaches seat 82 in 41 pairs of conventional reclining seats. Seat backs are of moulded plastic and contain the fold-down trays for dining. There are overhead parcel racks in which are individual seat lights, supplemented by incandescent fixtures in the ceiling over the center of the aisle.

Upholstery colors are varied to separate the coach into three sections. Each of these cars has three lavatories and a rack for luggage at the vestibule.

The club car, divided into two compartments by an enclosed food galley at its center, seats 39 passengers in double seats on one side of the aisle and single seats on the other. Each of the luxurious high-backed chairs has a special reclining mechanism and its own food service tray. Floors have red ribbed carpeting.

CN club car service, successor to the road's parlor cars, includes meal service appropriate to the time of day as part of the fare. The galley uses the same type of microwave ovens utilized in the cafe car. A CN team studied operations at several large North American catering firms before designing Tempo meal service. Luncheon and dinner courses are varied every day for 15 days. Breakfast menus are rotated on a five-day cycle. Each train is stocked at Toronto and carries enough food for a round trip in its refrigerated storage.

● **Basic design.** Carbodies of all Tempo cars are of the same basic construction—steel underframes and lightweight aluminum superstructures. The 1/8-inch aluminum sides, corrugated beneath the windows, are riveted to the aluminum struts extending between the tops of the side frame. Windows are large, double-glazed breather types of laminated safety glass with bronze tinting to reduce glare.

Trucks are a fabricated design with inboard roller bearings and outboard disc brakes. The carbody is supported at the side sills by an air-coil spring.

An injection system blows air from a distribution box under the car into ducts extending along the walls the full length of the car. Nozzles within the side walls then direct the flow upward across the windows. Circulating air is then returned through openings under the seats. Heating is achieved by elements in the underbody distribution box. The same 3,000-cubic-foot-per-minute fan which circulates this air also can direct flow over cooling coils of the electro-mechanical air conditioning system. Auxiliary electric heaters, in the corners of the car, boost the temperature of air which is ducted to the washrooms and passageways at end doors.

Each car has a 125-gallon water tank mounted on the underframe. Electric elements in this tank casing and around its drains are actuated automatically when outside temperature drops below 40 deg F. to protect the water system from freezing.

All the cars are finished in the same manner. Sides are of brushed aluminum, and are coated with clear urethane to preserve the bright finish and simplify washing. Vestibule side doors are painted red-orange, while the ends and roofs are painted black. The locomotive is bright red-orange with a white cab, CN logo and trim. The locomotive underbody and top are black. ■

Joseph Asher's

TRANSIT ROUNDUP

BILLION-DOLLAR PROPOSAL FOR CLEVELAND—The Seven County Transportation Use Study group released its long-awaited interim report which outlined the transportation system needed in the area by 1990.

The report called for building another 70 miles of rapid transit, including 16 miles of subway, at a cost of $570 million.

Existing rail routes would be expanded as follows: The CTS airport extension line would continue west to Berea; the Van Aken branch of the Shaker Rapid line would extend southeast to Route I-271; the Shaker Boulevard line would extend east to I-271.

New CTS lines would be: (a) Northwest from downtown to the Lorain County line; (b) southwest from downtown to Parma; (c) southeast from downtown through Garfield Heights and Maple Heights; (d) east through Cleveland Heights to Route I-271; (e) Northeast from Windermere along Euclid Ave. to Route I-90.

New CTS subways would be: (a) east on Euclid Ave. from downtown to University Circle; (b) from downtown east on Superior to Euclid; (c) from downtown west to W. 117th St.

An additional downtown distribution system which would serve East 9th St., Superior and Euclid is part of the scheme, as well as a physical connection between the CTS Rapid and Shaker Rapid in the University Circle area.

The study group's final report is due Dec. 31.

Word also comes from CTS of changes at the top: CTS Chairman Michael Lucak, after 19 years of service on the authority's board, announced his resignation. Mayor Carl Stokes will appoint his successor.

ATA CHOOSES CLEVELAND FOR MEETING—The American Transit Association's annual meeting will take

If airport access is your problem...

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place Sept. 15-19 at the Sheraton-Cleveland Hotel. Cleveland Mayor Carl B. Stokes and DOT Under Secretary John Robson will be featured speakers, and more than 1200 delegates from all over the U.S. and Canada are expected.

WASHINGTON METRO WAVES THE FLAG—A "Buy American" procurement policy for construction materials was announced by the Washington Metropolitan Area Transit Authority. Exceptions may be made if domestically produced materials are unobtainable or if their use would be impractical or drastically raise costs. In the latter case, a 15% cost factor will be added to bids which employ non-domestic materials.

In another move, WMATA announced award of $60,000 contract to Development Research Associates of Los Angeles, for detailed-cost-benefit studies of their projected 97-mile system.

21ST CENTURY TRANSPORT CENTER—A tri-level multi-modal transportation center, long planned by the PATH system for Jersey City, will soon be off the drawing boards and into the digging stage.

Port of New York Authority officials, led by chairman James Kellogg III, executive director Austin Tobin, and PATH General Manager L. V. Gambaccini, unveiled detailed architectural plans before an audience that included Gov. Richard Hughes of New Jersey, Mayor Thomas Whelan of Jersey City, and W. B. Hurd, deputy administrator, Urban Transportation Administration, DOT .

The eight-acre center, as shown in architectural models, will replace the present aging Jersey City station with a coordinated facility for PATH rapid transit trains, a bus terminal, auto parking facilities, and a ten-story PATH administration building.

Advanced architectural concepts, easy flow arrangements and new comfort for passengers are only part of the story. Another major factor is that the new facility is expected to trigger major urban renewal in the somewhat run-down core part of Jersey City, repeating the transit experience in other cities.

A $17 million federal transit grant (with an another $5 million to come if certain comprehensive planning requirements are met) gave the green light for the $45 million project, to be ready by 1971. Matching funds come from state and local sources.

HUD GRANTS—In addition to large additional grants to Los Angeles and Atlanta the Department of Housing and Urban Development announced several smaller ones for studies or study programs related to transit.

Among them are a $60,000 grant to New York's Institute of Public Administration for study of feasibility of rapid transit sharing rights of way with existing railroads; an additional $42,750 grant to MIT for study of a CARS (Computer Aided Routing System) taxi-like vehicle at low fares; and a grant of $12,835 to seven executives of the Massachusetts Bay Transportation Authority to attend transit management seminars.

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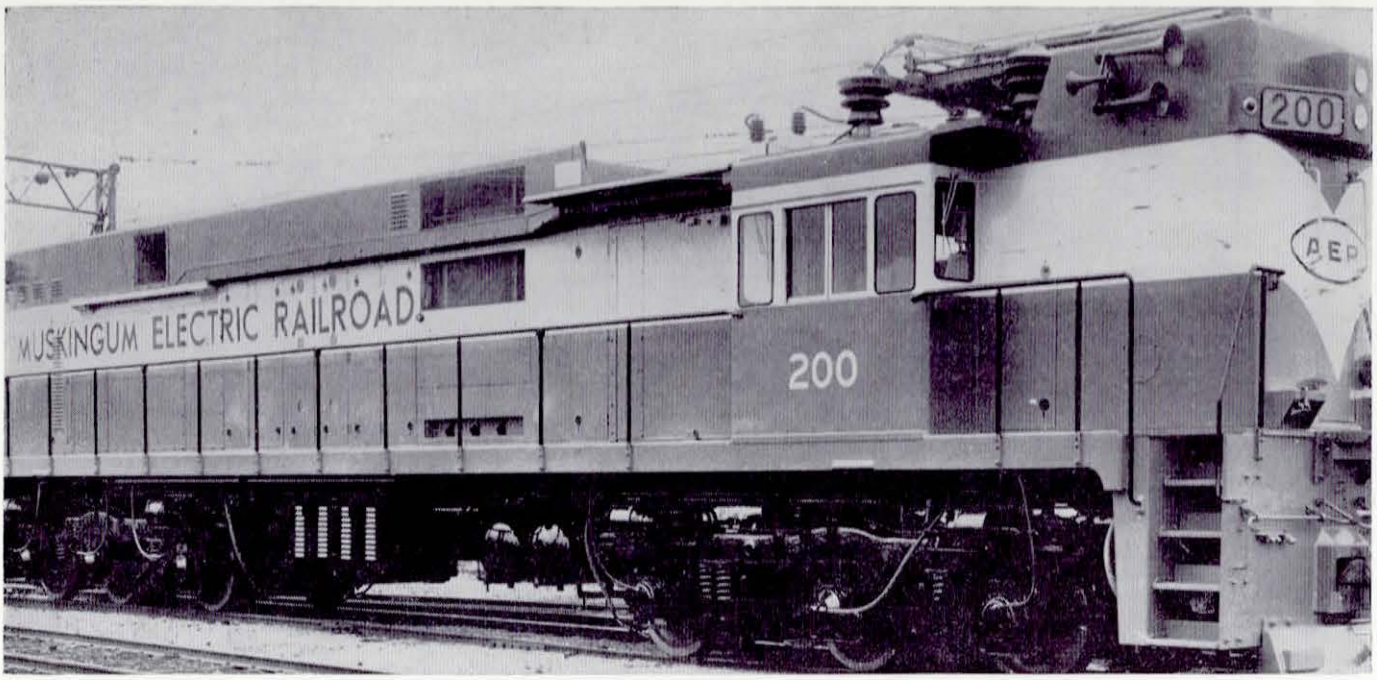
For more information write Metropolitan Transportation Development, Bldg. 42-321, General Electric Company, Erie, Pa. 16501.

605-11

TRANSPORTATION SYSTEMS DIVISION

GENERAL ELECTRIC

Erie, Pennsylvania



RECTIFIER ELECTRIC uses 60-cycle power so only transformer is needed on wayside; high voltage permits small wire.

GE delivers new electrics

Commercial frequency electrification and automation on private line have wide implications.

A private railway which, simultaneously, is a possible prototype for future American mainline electrification and immediately is the most efficient means of moving coal for an Ohio utility has received its first locomotive. The fully automated electric unit, first of two on order from General Electric, will be the first in the Western Hemisphere to be powered from a 25,000-volt, 60-cycle alternating-current catenary.

The 15-mile Muskingum Electric Railroad which is nearing completion in southeastern Ohio is regarded by its parent, American Electric Power system, as a test tube in which can be developed the techniques and costs that could lead to electrification of U.S. railways. The two locomotives, each hauling a train of fifteen 100-ton hopper cars, are to operate within AEP-subsidiary Ohio Power's Muskingum Mine, traversing the route between the mining area and a coal conveyor terminal from which coal will be transferred to OP's Muskingum station.

● **Rated at 5,000 hp.** Each of the trains will make six round trips daily under fully automatic control to move 18,000 tons of coal. The 5,000-hp E-50 locomotive will haul this train at a maximum of 55 mph with the steepest grade against loaded movement about 1.5%. While AEP planners concede that a 5,000-hp unit has considerably more power than is actually required, it did permit grades steeper than would have been possible with single-unit diesel haulage. The reduced grading cost readily justified the higher cost for the locomotive. GE also felt that the 5,000-hp units would have attractive commercial possibilities.

The trains will be automatically controlled, including the loading, unloading and terminal-to-terminal operating cycle. No operating crew is required. The GE control system incorporates automatic speed regulation, train control, switching, locomotive monitoring, and fail-safe features. The on-board speed-distance regulator which is internally monitored and directed by signals from the wayside, is seen as being applicable to a number of existing industrial haulage operations. "Elements of the Muskingum automated system will be applicable on mainline railroads as the developing trend continues toward automation of subsystems and eventually of complete systems," observes a GE engineer.

The six-axle locomotive uses solid-state rectifiers to convert the 60-cycle a-c to d-c for the six traction motors. The control system utilizes a combination of transformer tap changing and silicon controlled rectifiers and represents the first U.S. application of thyristor control to locomotive equipment.

● **Lower maintenance.** The 402,000-pound unit is 67 feet 3 inches long and has a top speed of 70 miles per hour. Maximum starting tractive effort is 117,000 pounds.

It is anticipated, says AEP, that maintenance costs on these units will be less than half the costs of comparable diesel-electrics.

In discussing the economics of the Muskingum Electric, John Tillinghast, executive vice president of American Electric Power Service Corp., pointed out that conveyor haulage costs were too high in regard to both capital and operating expenditures. The choice between truck and the electric railroad indicated a slight advantage for the railroad.

"Our decision to build the railroad was based not only on the lower cost, but also on the fact that about 75% of the total railroad cost is fixed capital costs and the 25% that remains can be fairly accurately determined," he explains. "On the other hand, operating costs for truck haul account for more than 75% of the total cost, so that higher-than-estimated operating labor costs would significantly increase total costs." AEP now anticipates that the railroad will be in operation within a few months. ■

Transit gets on the ballot—cautiously

The referendum is a double-edged sword which can either raise millions or kill off the best laid plans.

By JOE ASHER, Transit Editor

Getting voters to approve new taxes for building transit systems can sometimes be like the dentist getting a root-canal case to grin and bear the treatment. It may be necessary, it may even be vital, but—ouch.

Why are referenda for transit so difficult? And if they are difficult, why are cities like Los Angeles, Seattle and Atlanta placing so much hope in them for getting new billion-dollar transit systems built?

The first question has an easy answer, and another one that is more complicated. Obviously, no one likes the idea of raising his own taxes, no matter how worthy the cause.

Over and above that, referendum is a tricky bit of direct government that can slice through coalitions, compromise and complexity for good or for ill.

No one will soon forget the recent French experience, in which strikes and rioting came close to bringing down the government—and then a referendum swept that government back into power with a stronger mandate than it had before.

In other words, shifting moods of the moment determine the results more than in a general election. This makes the shots much harder to call.

It's the sort of thing transit supporters have to weigh when they decide on going for a ballot on their billion-dollar projects. Direct appropriations for transit from bodies have so far not materialized on a massive scale, and the money has to be found somehow. This leaves the rocky road of the direct referendum as the one that has to be travelled.

● **Ballot successes.** Tricky to handle as it is, the referendum can produce results. San Francisco's Bay Area Rapid Transit got voter approval for a $792 million bond issue, to be repaid from property taxes.

Philadelphia voters approved an $87.5 million bond issue to be spent on building extensions to the Broad St. subway.

Chicago voters, who balked at several bond issues for municipal improvements in the past, said yes to a $28-million bond issue to match federal funds and build the transit extensions up the Dan Ryan and Kennedy Expressways.

Most spectacular achievement to date was the State of New York's $2.5-billion omnibus transportation bond issue, with $1 billion of the money earmarked for transit and commuter improvements.

● **Getting ready for action.** Of the three major cities with big transit schemes that may go on the ballot soon, Los Angeles is shooting for a referendum this November, Atlanta may or may not try in November, and Seattle is aiming at a ballot on transit in the spring of next year, probably May.

In a sense, the Southern California Rapid Transit District was going for broke when SCRTD officials revised engineering and financial plans this year to present a bigger, costlier proposal to the public than before.

Instead of a 62-mile four-leg system that would cost $1.6 billion, they proposed an 89-mile five-leg system that would cost $2.5 billion.

Public hearings on route alignments and financial arrangements, plus television and newspaper publicity seemed to indicate that a large part of the local electorate accepted the need for rapid transit. What was not clear, though, was what method of financing to choose, and whether the money pill was too big to swallow or not.

As it happened, the California legislature passed a bill granting permission to put a sales tax on the ballot. This was considered important because California property owners have bitterly fought increases in property taxes.

As things stand now, Los Angeles voters will be asked to approve a sales tax of ½ of 1% for rapid transit purposes. This is expected to generate all the local matching money needed to build the system—$75 million in 1969, the same amount in 1970, and $120 million annually thereafter. The plan is given an excellent chance of passage by SCRTD men.

● **Atlanta.** The Metropolitan Atlanta Rapid Transit Authority (MARTA) took it on the chin last April, when Georgia's Governor Lester Maddox vetoed legislation that would have enabled MARTA to get a bond issue referendum ready right away, and at an advantageous interest rate.

MARTA General Manager H. L. Stuart observed at the time that both houses of the legislature approved that legislation by sizable majorities, and repeated local votes in Atlanta and surrounding counties showed strong pro-transit sentiment.

He and his staff still won't write off the possibility of getting the proposal on the ballot this November, but changes in financing, and some adjustments in the size and shape of the scheme just might push it back a few months.

At present, MARTA officials are talking of a 64-mile rapid transit system, costing about $500,000,000.

Voters would be asked to approve a

Spread-out cities and the bus myth

Los Angeles, Atlanta and Seattle are all cities that have been booming since the war. Since they have no first-hand experience of rapid transit, a frequent remark is that they are products of the automobile age, and not adapted for "old-fashioned" public transport.

Los Angeles is the classic example of a spread-out city with widely dispersed nodes of population and employment. In that case, the argument goes, there aren't the traffic densities that could make rapid transit practical.

Not so, argues John Curtis, director of rapid transit planning for SCRTD. Engineering studies done for his agency show traffic volumes sizable by eastern standards moving along the proposed rapid transit corridors even now—not to speak of what is predicted for the future.

Those who argue that express busses could do the job as well as rapid transit, and far more cheaply, should see the report submitted to SCRTD by the consulting firm of Simpson & Curtin.

Main findings:

—Local bus service is fine for feeder or auxiliary service.

—Non-stop bus operation on grade-separated roadways has certain advantages, but also drawbacks. Rapid busways require expensive turnouts and/or terminals downtown that would raise construction costs close to those of rapid transit without corresponding increase in carrying capacity.

—Rapid busways would not help the air pollution problem.

—A fixed rail system offers the best hope as backbone of public transport for Los Angeles.

LUTHER MILLER

AS THE EDITOR SEES IT

GLAD TIDINGS FROM THE AAR— One Madison Avenue drumbeater, on hearing that the AAR planned to invest $2.5 million in advertising during the remainder of 1968, suggested that the news be printed under the headline, "Hell freezes over." Actually, the industry's record in the honest-self-praise department has not been all that bad, though it's been bad enough. What is important is that we now have recognition at the highest level that the railroad image is badly in need of repairs. Even more important, the AAR's present board has demonstrated that it is willing to pay the bill. (See Monday Morning Report, p. 8.)

THE GOAL: UNDERSTANDING—What does the AAR hope to accomplish by spending, on paid commercials, enough money to buy 165 new freight cars? For one thing, the AAR may hope to change the minds of people like the college professor who recently wrote to *Trains* magazine, "I am not interested in railroad corporate balance sheets. I am not interested in the most efficient ways of transporting pigs or sausages. . . . When a railroad quits carrying people, I lose all interest in it."

THE MEANS: RELATING TO THE PUBLIC—To convince such people that railroads remain vitally important to them, even at a time when they are seeing fewer and fewer of their beloved passenger trains, is the task the AAR is now addressing itself to. A lot of the people who will see these ads on television, and read them in magazines, and hear them on radio, will be today's opinion leaders, in Washington and elsewhere. A lot more will be tomorrow's opinion leaders. "Preconditioning" is the ad man's word for it.

DOES IT REALLY PAY?— The job which this or any other ad campaign must do is basically a sales job. The fact that an idea is harder to sell than a refrigerator only makes the job trickier—not less important. There are, to be sure, and there always will be, those who doubt that advertising pays at all when the results cannot immediately be detected on a balance sheet. Admittedly, advertising is only one paving stone on the road to sales success; but like any paving stone, it is often more conspicuous in its absence than in its presence. At a time when other modes of transportation have been raising an almost deafening din with their commercials, the failure of railroads to produce a comparable noise must have caused many to think that our industry is, indeed, at death's door. Maybe the AAR's new noise-makers will, at the very least, head off the embalmers.

bond issue to raise up to that much, with property taxes as the authorized source of repayment of principal and interest. Local political jurisdictions would also be authorized to channel in other funds for that purpose, if they chose.

No saturation advertising campaign has been launched yet to promote the bond issue, since it is still not definite that November is the target date for a ballot.

What has been done, though, is to promote awareness of the cause through press conferences for the mass media, television interviews, briefings and progress reports on design and planning for political and business leaders.

● **Reach the people.** By law, MARTA is required to hold at least one public hearing in each political jurisdiction where the proposed system would go—five altogether. Instead, the MARTA tactic has been to schedule 13 such hearings. This serves to publicize the plan, involve local people and deal with any objections that can arise.

One point MARTA officials have been hammering at for a long time is—the longer the delay, the more the system will cost. This seems to have had its effect; they report that compromise proposals for a short, close-in system built on a quickie-cheapie basis don't arouse enthusiasm.

MARTA also persuaded political and business leaders led by Mayor Ivan Allen to go up to Canada and see for themselves what modern transit is like in Montreal and Toronto. The result: a cadre of influential Atlantans who are "sold" on the merits of transit.

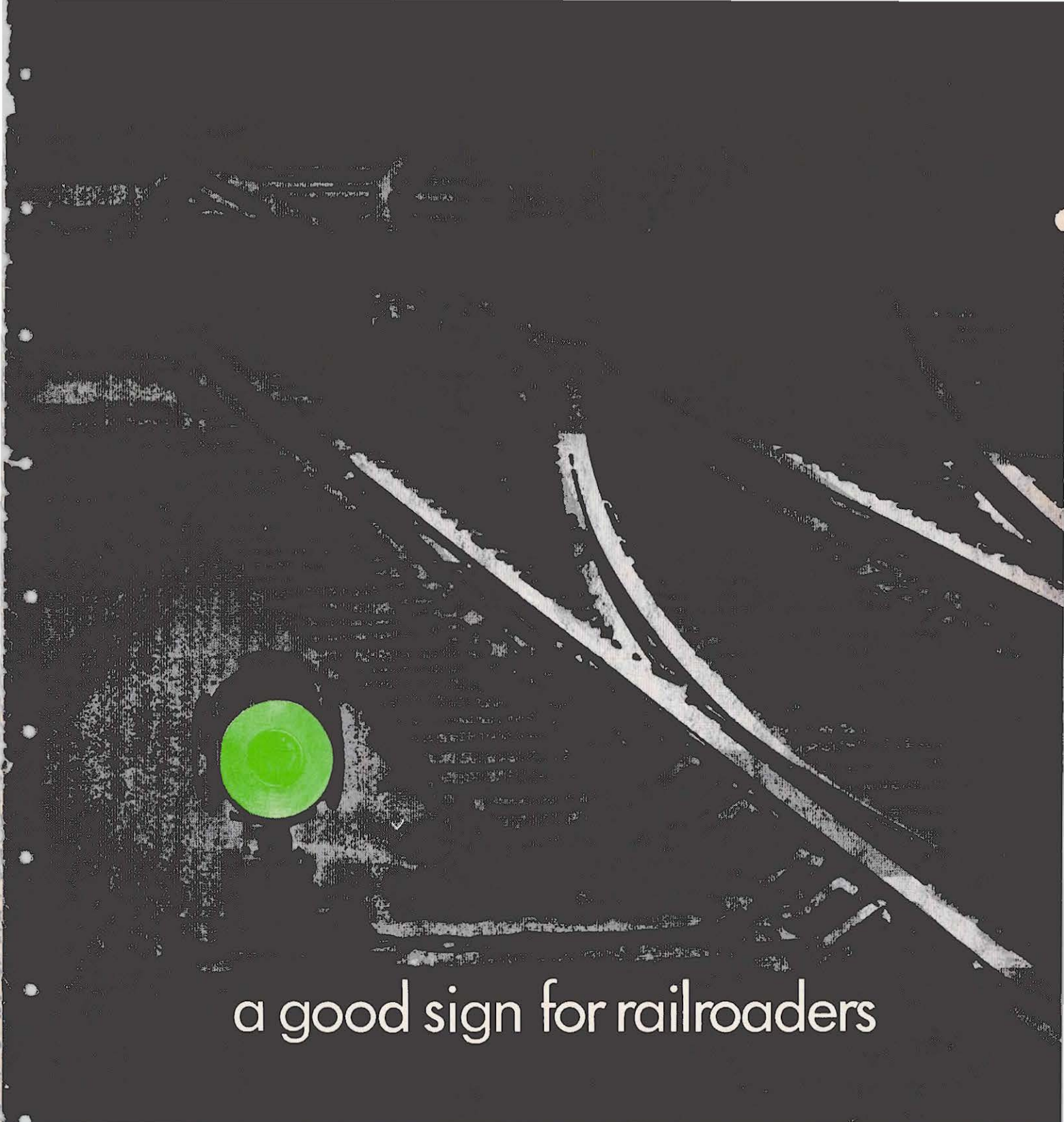
● **Seattle snafu.** City officials in Seattle rubbed their eyes with astonishment when the results of the transit referendum came in last February. The law required a 60% favorable vote on a $385 million bond issue, and this was widely expected. Instead, no more than a straight plurality was achieved, and the bond issue died right there.

Or rather, it had to lie dormant, while the men promoting transit figured out what went wrong.

The feeling is that not enough was done to spell out for voters just how rapid transit was arrived at, rather than some other mass transit scheme.

Accordingly, the city and Metro (a council of local bodies) jointly are commissioning a study of the rapid transit plan in comparison with two other plans —one for express busses on grade-separated roadways and one for express busses in mixed traffic.

Local observers give it as their opinion that the rapid transit cause has everything to gain from this: Numerous similar analyses elsewhere have shown rapid transit's inherent merits. In all likelihood, a bond issue referendum for one of these plans will be on the ballot next spring. ■



a good sign for railroaders

Whether it's in the switching yard or on an open stretch of track, a green light on a switch spells out a good sign for any railroader. And the familiar Edgewater (E) on wrought steel wheels tells a railroader he's equipped with the most dependable wheels for his rolling stock.

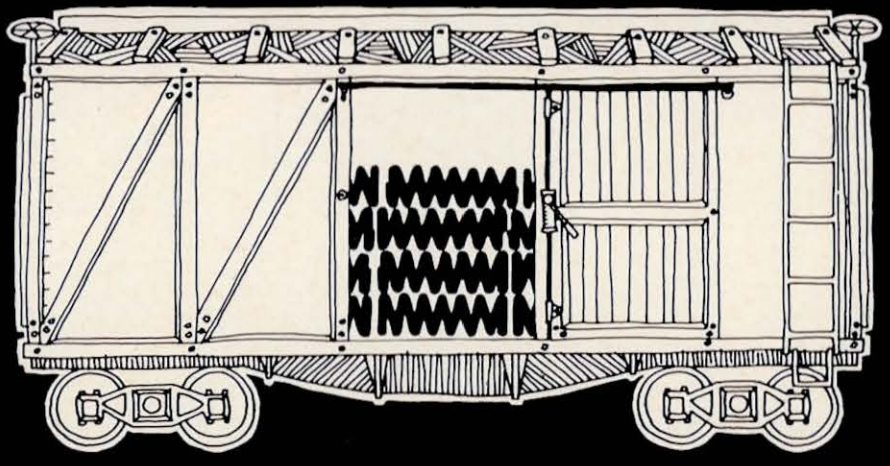
Edgewater wrought steel wheels give you extra service because they're made by a highly developed forging and rolling technique. The metal's tough and dense, providing the all-important stamina to withstand today's heavier loads and higher speeds. Edgewater Corporation, P.O. Box 478, Pittsburgh, Pa. 15230.

when you want the highest quality steel wheels, rely on this sign

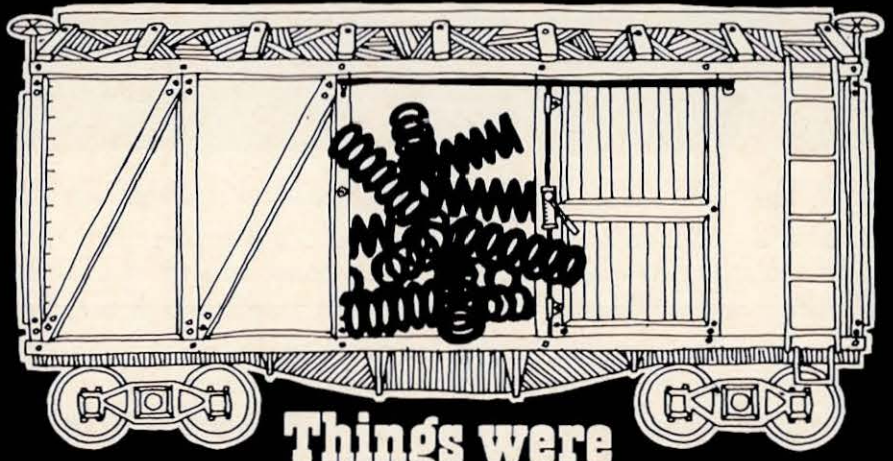
Circle 10 on coupon page 33

Remember The Good Ol' Days?

When AAR coil springs were shipped like this...



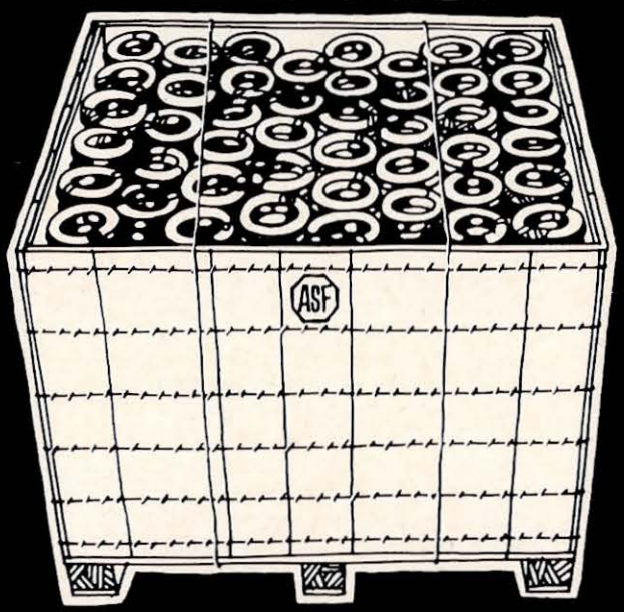
and arrived like this?



Things were in pretty much of a tangled mess.

Then... Along Came The Thinking Men From ASF

with Palletized Shipments like this!



It made all of the storekeepers happy. And encouraged other spring makers to do the same. That's progress—That's ASF.

ASF **American Steel Foundries**

ONE OF THE Amsted INDUSTRIES

ROBERT G. LEWIS

AS THE PUBLISHER SEES IT:

Out on the line with Lou Menk

How can a railroad executive best see his branch line territory, and is it worthwhile? Lou Menk, president of the Northern Pacific since October '66, will tell you "Do it by Hy-Rail, and it is well worth the effort." After spending two days with him covering NP's Idaho division branch lines and the Camas Prairie in a hybrid Chrysler station wagon, I heartily agree. He is winding up a three week trip that will Hy-Rail him over more than 1,000 miles of NP branch line trackage. He is not only familiarizing himself with the territory and some of the problems he has to deal with remotely back at St. Paul, he is making Lou Menk familiar to a lot of employees who otherwise might never see him, or any other NP president in the course of their railroad careers (one old timer commented, "you're the first president I've seen since Charley Denny").

Mr. Menk visited every open station on our route. Besides meeting the old timers, he met a lot of youngsters—relief agents on vacation from college—who could well be part of NP's (or Burlington Northern's) future.

NP's chief exec. also observed a number of less-than-optimum practices affecting service and car supply on which corrective action was promptly set in motion.

He didn't waste any evening hours, either. The second night out was a dinner at Lewiston with top people from Potlatch Forests, one of NP's bigger shippers.

Two outstanding advantages of the Hy-Rail for doing the branches: low, low cost, and flexibility. On the Camas Prairie we went by highway from the end of one branch to another, saving hours of backtracking.

LOUIS MENK

Highpoint of the trip over the Camas Prairie was at Ahsahka near Orofino, railhead for the big new Dworshak dam now in early construction stages. Already steel and cement are carloading in. An observation: In all the literature the Army Corps of Engineers has put out for visitors to the dam-site, no mention is made of the part rail transportation will play as major hauler of construction material. It is interesting to speculate what would happen to the estimated $348,000,000 cost for the seven year project if efficient railway transportation were not near at hand.

Earnings take a turn for the better

Railroad first-half income statements make better reading this year than last —for the most part. With a few exceptions, income is up (or the deficit down). Added to the report-list in the last week:

Northern Pacific—$9.5 million in consolidated first-half earnings, up from $4.7 million in 1967.

Milwaukee Road—$3.8 million in consolidated earnings, up from $1.8 million. Earnings from rail operations alone hit $2.3 million this year, compared with $417,824 in first-half '67.

Frisco—$6.3 million in consolidated earnings, a new first-half record high, up from $5.8 million last year. Operating revenues and expenses were also at record levels, and the operating ratio was the lowest of any first half in more than 20 years.

Western Pacific—$2.7 million in earnings, up from $2.1 million in '67.

Great Northern—$8.3 million in first-half net, up from $8 million last year.

IC Industries—$16.1 million in earnings, up from $7.8 million, representing in part an extraordinary gain from sale of land. Without this item, income would have been $8.6 million.

Rock Island—$2.5 million deficit, an improvement from the $6.6 million loss posted in first-half 1967. In second-quarter 1968, a $4.2-million increase in operating revenues and a $738,000 cut in expenses helped trim the deficit from $5.9 million to $690,000.

Erie Lackawanna—$5.7 million deficit in first-half '68, compared with a $3.9-million loss last year. But EL eked out a net income of $54,000 in second-quarter '68, with a 9.6% increase in revenues due largely to a steel-traffic buildup.

Missouri Pacific—$12 million in consolidated earnings, down $1.2 million from first-half '67. On a generally-accepted-accounting-principles basis, earnings dropped to $8.5 million from $10.2 million last year.

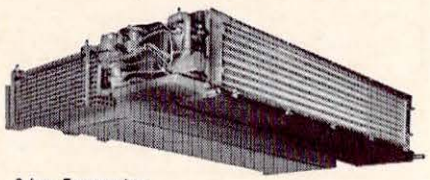
Gulf, Mobile & Ohio—$3.8 million in earnings for first-half 1968, up from $3.7 million in the corresponding 1967 period.

Soo Line—$3.9 million for this year's first-half consolidated net, up from last year's comparable figure of $145,000.

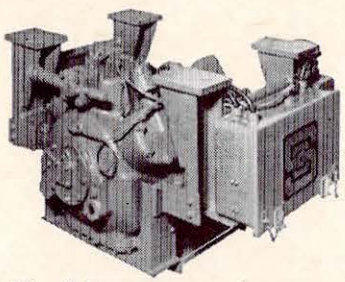
Santa Fe—$31.2 million in first half '68 up from $30.9 million in '67.

Chicago & Eastern Illinois—a loss of $84,000 in first half of '68, against a loss of $361,000 in '67.

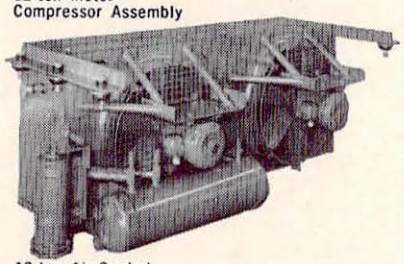
Modern Transportation Includes Safety Air Conditioning



6-ton Evaporator and Blower Assembly, overhead unit



12-ton Motor-Compressor Assembly



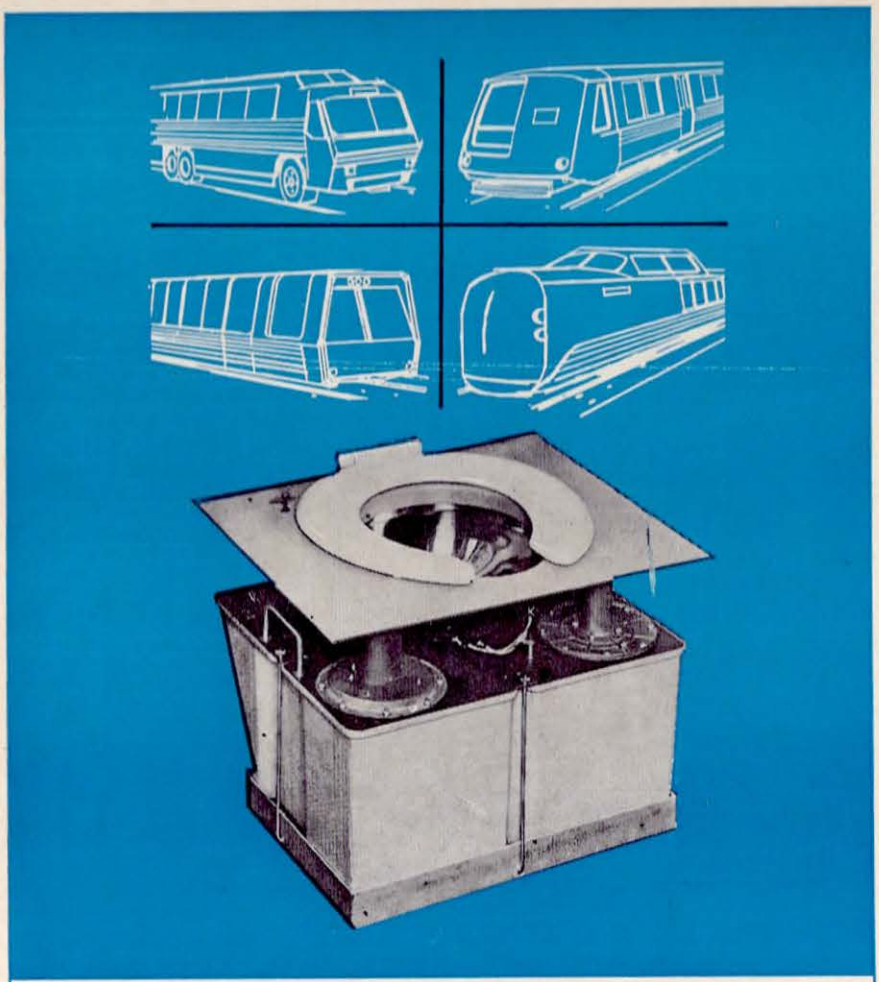
12-ton Air-Cooled Condenser

These units are part of the **Safety** Equipment which provides the air-conditioning for cars on the new high-speed Northeast Corridor trains. A motor-compressor assembly, air-cooled condenser unit, and a motor starter and control panel are each separately mounted under each car. Two six-ton evaporator and blower assemblies are installed above the ceiling, one at each end of the car.

Safety ELECTRICAL EQUIPMENT CORP.

NEW YORK · CHICAGO · PHILADELPHIA · RICHMOND · ST. LOUIS · SAN FRANCISCO · NEW HAVEN · MONTREAL
1187 DIXWELL AVE., NEW HAVEN, CONN. 06514 TEL. 203: 865-3171

Circle 12 on coupon page 33



The New Travel Era demands the ultimate in passenger comfort

Your passengers deserve the maximum in convenience and comfort . . . the new Monogram railcar/bus flushing toilet. A fully automatic, electric unit, completely self-contained, small and compact, it can be installed in any space configuration. Quiet. Odorless. A strong, swirling action empties the bowl thoroughly, quietly in just 10 seconds. Water is then chemically treated and deodorized, filtered and recirculated. Requires no separate water supply or holding tank. The same dependable Monogram system used by virtually all jet airlines the world over. Send for brochure.

MONOGRAM
RECIRCULATING
FLUSHING TOILETS

MONOGRAM INDUSTRIES, INC., VENICE DIVISION
3226 Thatcher, Venice, Calif. 90291 • Phone: (213) 870-8772

Circle 13 on coupon page 33

James P. Daley
C&NW

John Forbes
UP

PEOPLE

CHICAGO & NORTH WESTERN.—James P. Daley, assistant general counsel, promoted to general solicitor.

The following appointed trainmasters: **T. R. Seiz,** Twin Cities Terminal, St. Paul; **P. A. Stephanson,** Missouri division, Kansas City, Mo.; **R. D. Merritt,** Missouri division, Des Moines, Iowa; **J. C. Doty,** Dakota division, Mankato, Minn.

F. E. Cunningham named superintendent car department-administration, and **E. S. Spafford** appointed assistant superintendent car department-administration, both with headquarters at Chicago. **J. D. O'Neill,** superintendent car shops, Clinton Car Shop, Clinton, Iowa, named superintendent car department-operations, Chicago. **D. F. Dilgard** appointed assistant superintendent car department-operations, Chicago. **L. A. Bengston,** assistant shop superintendent, Clinton Car Shop, Clinton, replaces Mr. O'Neill, and in turn is replaced by **D. D. Hed,** division general car foreman, Green Bay, Wis. Mr. Hed's successor is **R. L. Bain. B. T. Nelson** becomes master mechanic, Marshalltown, Iowa.

J. L. Simons appointed division engineer. Missouri division, and **E. R. Bowman,** assistant division engineer, Missouri division, both with headquarters at Oelwein, Iowa.

NAPIERVILLE JUNCTION.—Frank W. McCabe, acting president, Albany, N.Y., elected president, succeeding **F. C. Dumaine, Jr.,** resigned. **G. Clayton Seaman,** general freight and passenger agent, Montreal, elected vice president.

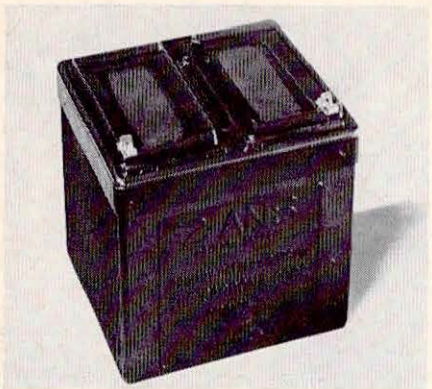
NATIONAL TRANSPORTATION SAFETY BOARD.—The Senate has confirmed President Johnson's reappointment of **Louis M. Thayer** for a new term expiring Dec. 31, 1973. The Board, an autonomous agency housed in the Department of Transportation has power to investigate any or all transportation accidents.

NORFOLK & WESTERN.—John T. Hiner, administrative assistant, promoted to engineer maintenance of way, Roanoke. **Dan J. Lewis,** senior assistant engineer, Cleveland, named engineer—bridge maintenance, Roanoke. Mr. Hiner was chief engineer maintenance of way and structures, **Southern,** for 18 years, and assistant to vice president, F. Speno Railroad Ballast Cleaning Co. before joining the N&W last year.

Jakie R. Baldwin, assistant engineer car design, promoted to research engineer. **William A. Bostian,** engineer car design, promoted to engineer car construction. **Robert E. Clemmer,** assistant engineer car design, named engi-

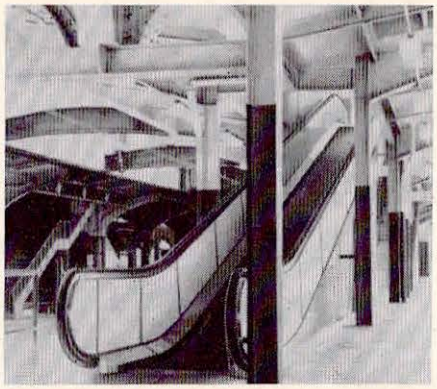
(*Continued on page 36*)

NEW PRODUCTS REPORT



Primary battery (RA-1)

A new two-cell, air-depolarized water-activated primary battery has a life of 1,200 a.h. The new batteries, designated 2-ANS, with the two cells in series, normally operate in a temperature range of 0 to 125 deg. F. They will function satisfactorily during occasional drops to —40 deg. F. The batteries have a nominal closed-circuit rating of 2.5 volts, and a maximum continuous discharge current of 1 ampere at 70 deg. F. and 0.25 ampere at 0 deg. F. They can be used on all types of switch-lamp circuits up to an application requiring steady burn with a 2.9-volt, 0.15 ampere lamp. The battery would operate such a lamp for at least a year. In addition to having a flat line voltage curve on discharge, 2-ANS batteries exhibit long shelf life and require no maintenance. It is impossible to fill and use these batteries without venting them. They are shipped with a clear plastic cap that covers terminals and filling holes. The filling holes are also closed by tape. To fill and use the battery, the shipping cap and tapes must be discarded. *Carbone Corp.*



Passenger ramp (RA-2)

A stepless moving ramp called Air Ride Speedramp Passenger Conveyor can handle over 7,200 people an hour. The 39-inch treadway surface has ample space for two people to stand side by side. One of the moving ramp systems has been installed in Penn Central's Baltimore station. Carts are available for passengers handling their own luggage. The carts have grooved wheels that fit into grooves on the belt to engage a braking device while the cart is on the ramp. *Stephens-Adamson Mfg. Co.*

Two-way radio (RA-3)

A new line of wall-type and desk-top remote control consoles for FM two-way radio systems is designed to control remotely-placed two-way radio base stations over telephone lines.

All models are equipped with intercom, which enables up to five consoles to be used without tying up the air frequency.

An optional supervisory control feature permits the supervisor to monitor and cut off, if necessary, transmission from other consoles to mobiles. *General Electric.*

Upholstery repair kit (RA-4)

Holes, cuts and burns in vinyl upholstery are virtually invisible when repaired with Vinyl Magic liquid to which a small piece of the damaged upholstery is added. In minutes, a glue of the right color is created. The colored glue is then used to chemically weld the damaged area. Ball-point ink, marker pen and scuff marks can be eliminated by a brush application. The kit contains the liquid, resin powder, and miscellaneous tools. *Vinyl Care Corp.*

Door operator (RA-5)

Fail-safe over-center locking arrangement of the Slim Line Dor-Trol operator, designed to fit the narrow confines of wall-pocket installation on Long Island Rail Road commuter cars, is said to prevent accidental door opening. Circuitry provides auxiliary power operation and manual override for emergencies. All impact to door and door operating mechanism is eliminated by a lever arrangement which controls opening and closing speeds. *Vapor Corp.*

RAILWAY AGE
THE TRANSPORTATION WEEKLY

30 Church Street, N.Y., N.Y. 10007 READERS' SERVICE (Att. George Johnson)

PLEASE SEND ADDITIONAL INFORMATION ABOUT PRODUCTS IN ADVERTISEMENTS NUMBERED: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

PLEASE SEND INFORMATION ABOUT PRODUCTS DESCRIBED ON PAGE 33 MARKED: RA-1 RA-2 RA-3 RA-4 RA-5

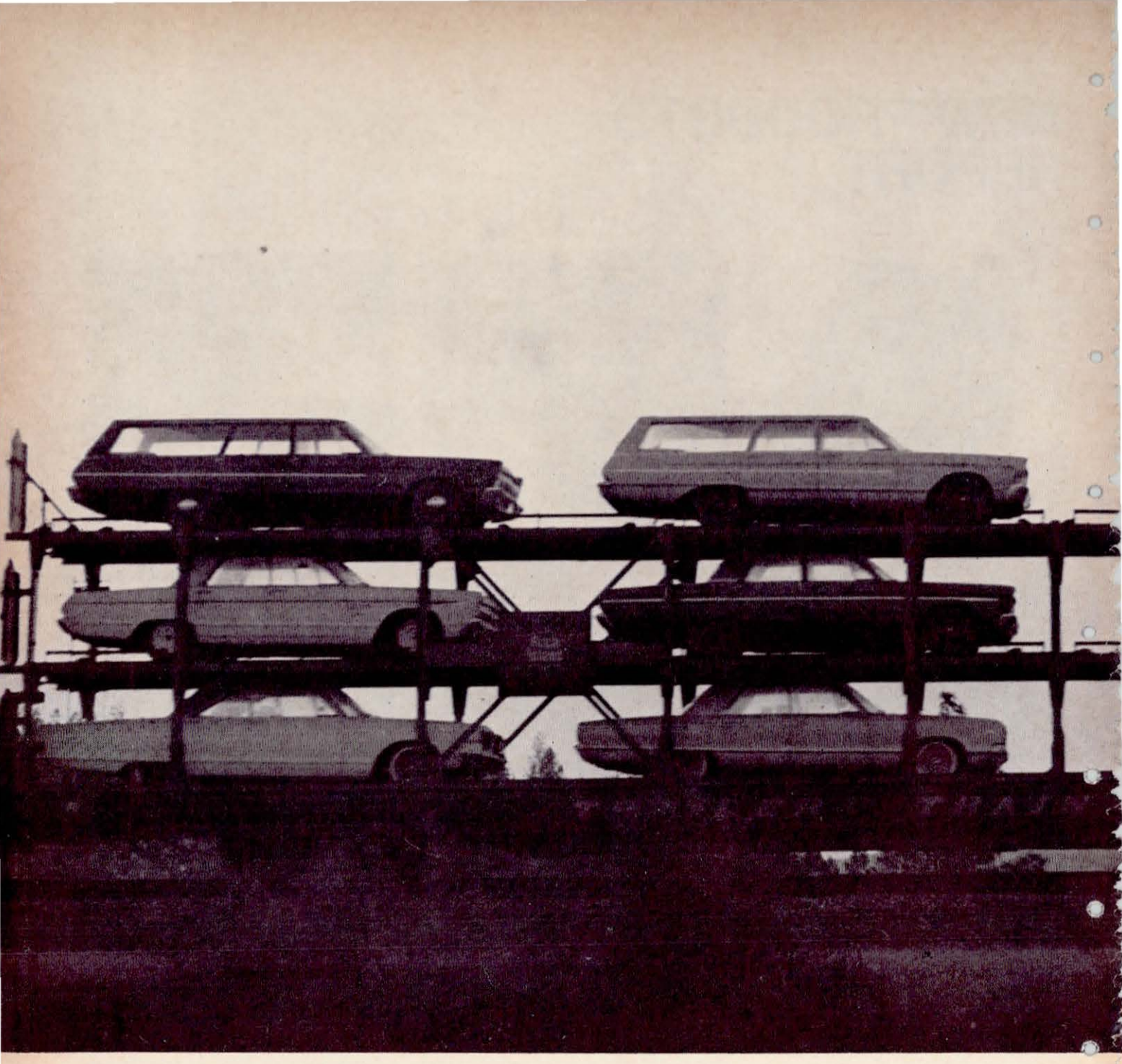
NAME ..... TITLE .....

COMPANY .....

ADDRESS .....

CITY ..... STATE ..... ZIP .....

● **Inquiries can be processed only if title and company are shown.** 8/5/68



The train idea in a nutshell:

Time was when it took 1,800 drivers to get 1,800 cars out of Detroit. Bumper hitches cut it to 900 drivers. Trailer trucks cut it to 300 drivers.

Then the railroads put their thinking caps on—and out came new cars, new loading ideas, new marketing ideas—all flowing out of the basic train idea itself.

What is the train idea?

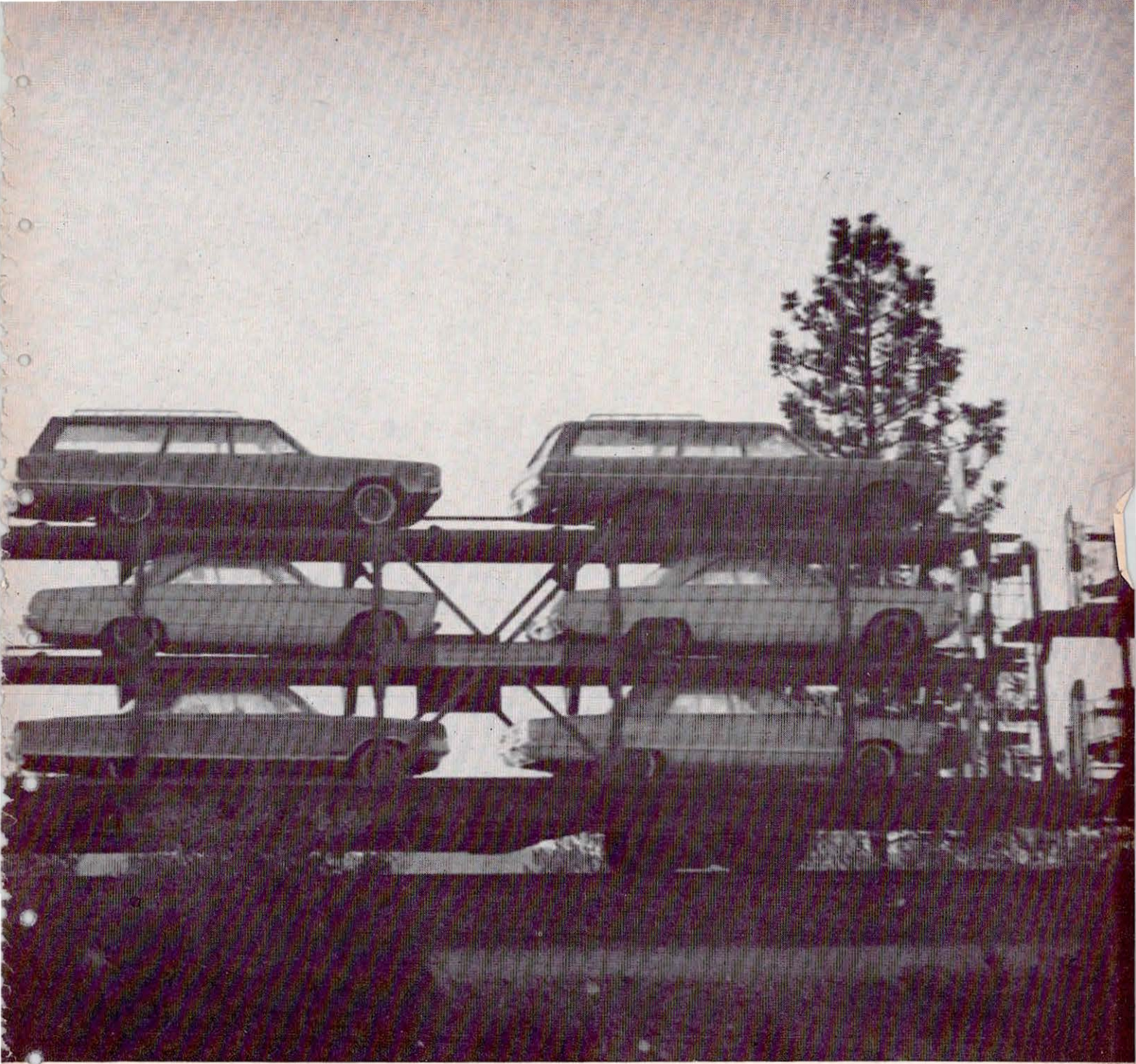
Manpower efficiency: A multiplicity of towed cars, with one "driver" at the controls up front.

Volumetric efficiency: For each cubic inch of displacement, there is only about half as much opportunity for cylinder wall friction in a giant railroad diesel as in a typical truck engine.

Rolling efficiency: nothing travels so easily as a steel wheel rolling on a steel rail.

Aerodynamic efficiency: Every car in a train "runs interference" through the air for the car just behind it.

Guidance efficiency: Scientists struggle to develop



one "driver" for 1,800 cars

guidance systems for cars and trucks (electronic guidelines buried under pavement?). But guided movement is built right into trains with the rails they ride on.

Today, new developments are making the train idea look greater than ever. To giant new unit trains—that stretch out to carry 1,800 or 2,000 automobiles or shiploads of coal or grain—add:

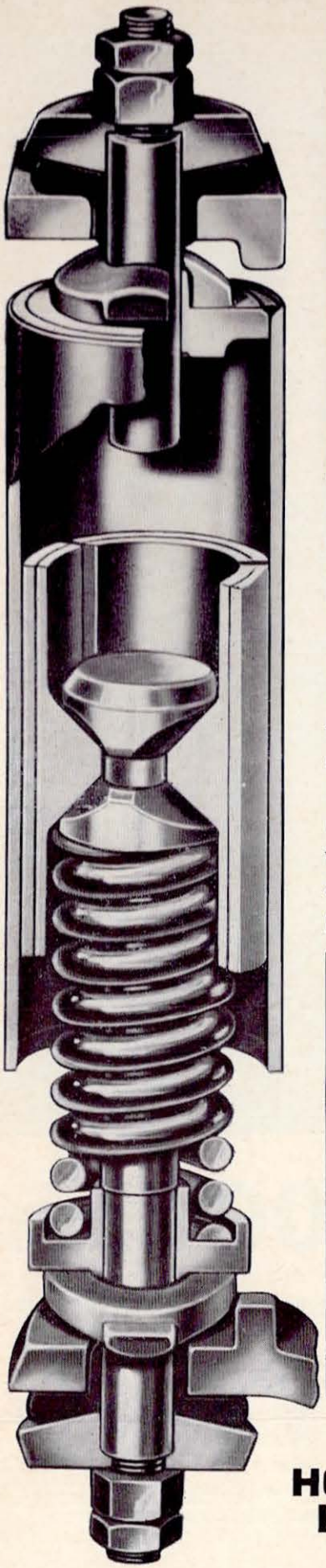
—a broad new spectrum of specialized cars, such as the triple-decker auto rack car above;

—ingenious new maintenance of way machines that do everything but talk;

—new sensory devices, controls, signalling, communication, computerization. These are fast giving a railroad a central nervous system to match its own complexity and potentially fantastic efficiency.

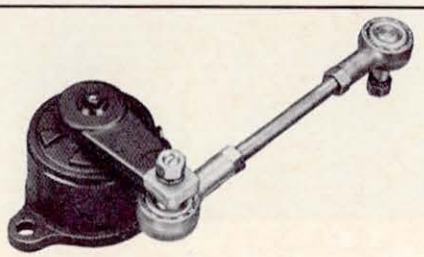
Where do railroaders turn to keep up with all this? To the pages of weekly RAILWAY AGE. What a place to tell them all about *your* ideas for progress!

Be part of the weekly excitement in **RAILWAY AGE** *the transportation weekly*



HOUDAILLE PUTS RIDE CONTROL WHERE THE ACTION IS

For damping lateral, vertical or rotational motion in main-line passenger, special lading or rapid transit car service, Houdaille Ride Controls offer unexcelled reliability . . . proven in 40 years of railroad usage. Simple, trouble-free Houdaille Friction Snubbers insure extended service life under the most severe operating conditions. Vibration control results from frictional resistance of segmented "brake shoes" moving against the inside of a barrel-shaped housing . . . an economical design that is self-compensating for service wear.



Rugged, self-contained Houdaille Hydraulic Rotaries have no exposed working parts, provide external valve adjustment to suit individual conditions or for service wear. External access to fluid reserve permits periodic check of fluid level. The self-lubricating shock absorber is equipped with a dynamic shaft seal that prevents external leakage . . . adjusts itself in service.

For the tough ride control assignments, consult Houdaille. Write for Catalogs RSA-765 and FS-165.

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BUFFALO, NEW YORK 14211

HOUDAILLE INDUSTRIES INC

Circle 14 on coupon page 33

(Continued from page 32)

neer special equipment. **Frank W. Robertson,** mechanical inspector, promoted to engineer car equipment. **E. A. Wolfenden,** mechanical inspector, promoted to assistant research engineer. **Broughton G. Finnell, Jr.,** draftsman, promoted to mechanical inspector. **Marvin L. Cook,** foreman, Lynchburg, Va., named general car foreman, Brewster, Ohio, succeeding **D. R. Kanney,** named general foreman, Frankfort, Ind. **Richard T. Huffer,** general car foreman, Bellevue, Ohio, named foreman, Sandusky, Ohio, succeeding **John W. Shelor,** transferred to Lynchburg.

R. P. Collingwood appointed director of budget and planning, Roanoke. He was formerly a vice president, Wyer, Dick & Co.

Herman J. Altizer, Jr., mechanical inspector, promoted to assistant general storekeeper, Roanoke, succeeding **F. T. Wolford,** retired. **Raymond R. Forbes,** mechanical inspector, appointed assistant mechanical supervisor and has been succeeded by **John S. Drute, Jr.,** foreman yard, Roanoke shops.

Luther A. Twist, manager computer services, named director computer services, succeeding **Hubert W. Woody,** retired after nearly 46 years with the N&W.

PENN CENTRAL.—Appointments on staff of **C. T. Pompa,** assistant vice president—engineering: **J. F. Piper,** chief engineer—maintenance of way; **C. E. Defendorf,** chief engineer; and **K. M. Lockerby,** director—communications and signals.

Appointments on Mr. Piper's staff: **B. J. Gordon,** engineer—maintenance of way, system; **W. T. Hammond,** engineer—standards; **L. W. Green,** manager—methods & cost control; **W. H. Goold,** manager—track material; **F. D. Day,** system engineer—B&B maintenance; **M. E. Kerns,** superintendent—maintenance equipment; **C. C. Herrick,** engineer—track; **D. A. Sutherland,** superintendent—system maintenance gangs; **R. E. Gorsuch,** manager—reclamation & welding plants; **L. F. Schrader,** engineer—rail installation; and **J. D. Case,** superintendent—welding plants.

Appointments on Mr. Defendorf's staff: **T. P. Cunningham,** assistant chief engineer—staff; **J. W. Wallenius,** assistant chief engineer—design; **H. J. McNally,** assistant chief engineer—special projects; **W. J. Sponseller,** engineer—construction; **G. H. Tilson,** planning engineer; **M. L. Koehler,** engineer—structures; **W. C. Humphreys,** architect; and **I. P. Yatzkan,** mechanical and electrical engineer.

Appointments on Mr. Lockerby's staff: **H. Alexander,** manager—communications and signal systems; **L. S. Bottinelli,** engineer—communications and signals; and **J. A. Early,** manager—communications and signal design.

Appointments on the staff of **C. G. Magruder,** assistant vice president—traffic administration: **W. G. Dorwart,** assistant vice president—freight services, **C. R. Burr,** director—traffic services; and **T. A. McSherry,** manager—traffic administration.

Carl G. Sempier appointed assistant vice president—business systems and information services.

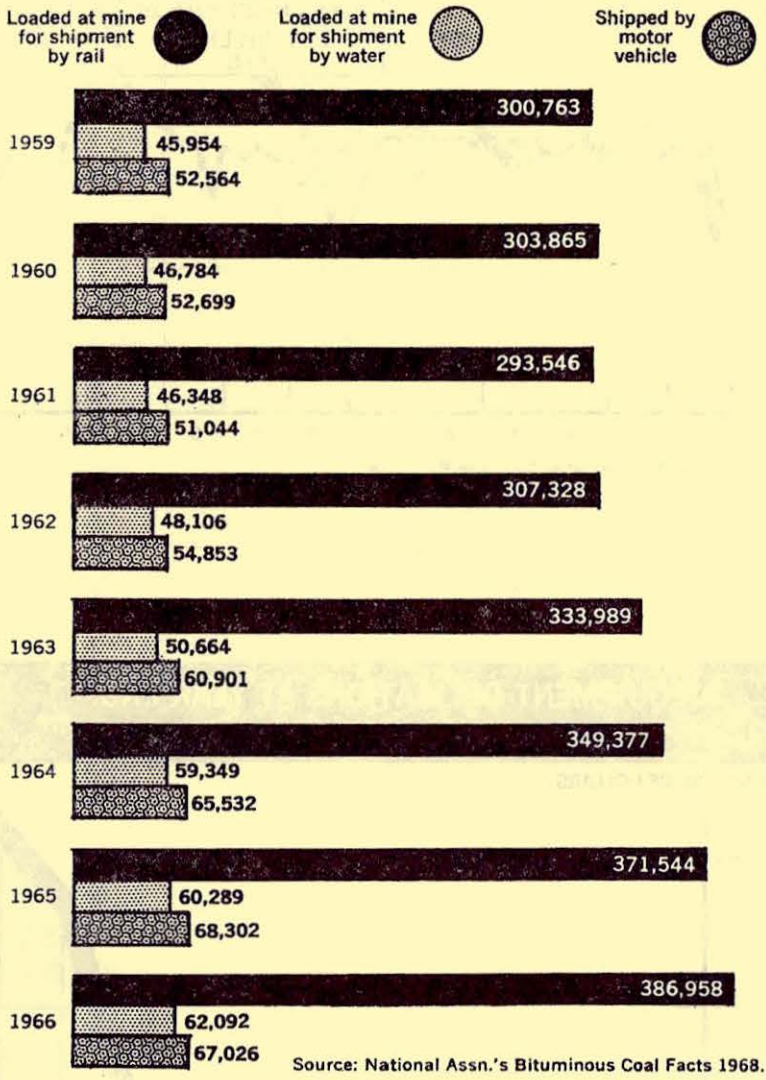
J. J. Popp appointed regional comptroller, New York Region, New York.

G. P. Butler named assistant to assistant general manager—employee relations, New York.

UNION PACIFIC.—John Forbes appointed director of public relations and advertising, Los Angeles, succeeding **Paul L. Harrison,** who retired July 1. Mr. Forbes joined the UP in 1942 at Omaha, Neb., and served in the mechanical and traffic departments until 1955, when he transferred to the advertising department.

HOW BITUMINOUS COAL MOVES FROM MINES

(Thousands of net tons)



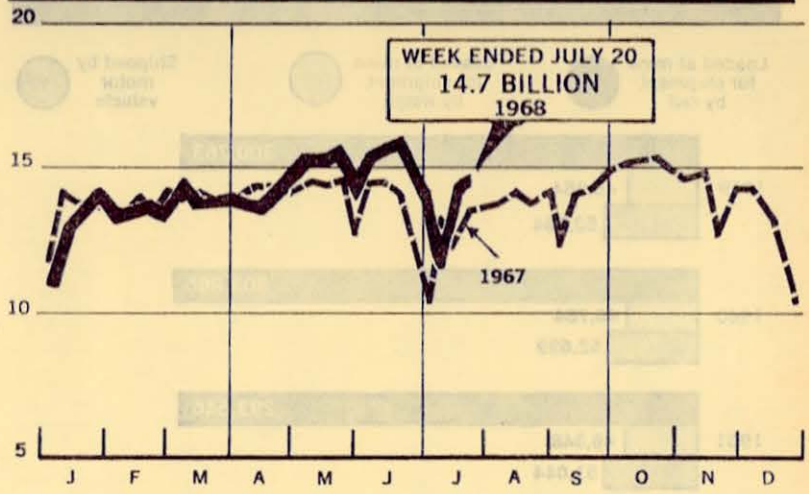
Source: National Assn.'s Bituminous Coal Facts 1968.

Current statistics

Carloadings, revenue freight	
30 wks., 1968	16,114,375
30 wks., 1967	15,971,734
New freight cars on order	
July 1, 1968	17,810
July 1, 1967	30,225
New freight cars delivered	
6 mos., 1968	31,355
6 mos., 1967	47,587
Serviceable cars	
July 1, 1968	1,396,613
July 1, 1967	1,420,402

RAIL FREIGHT TRAFFIC TRENDS

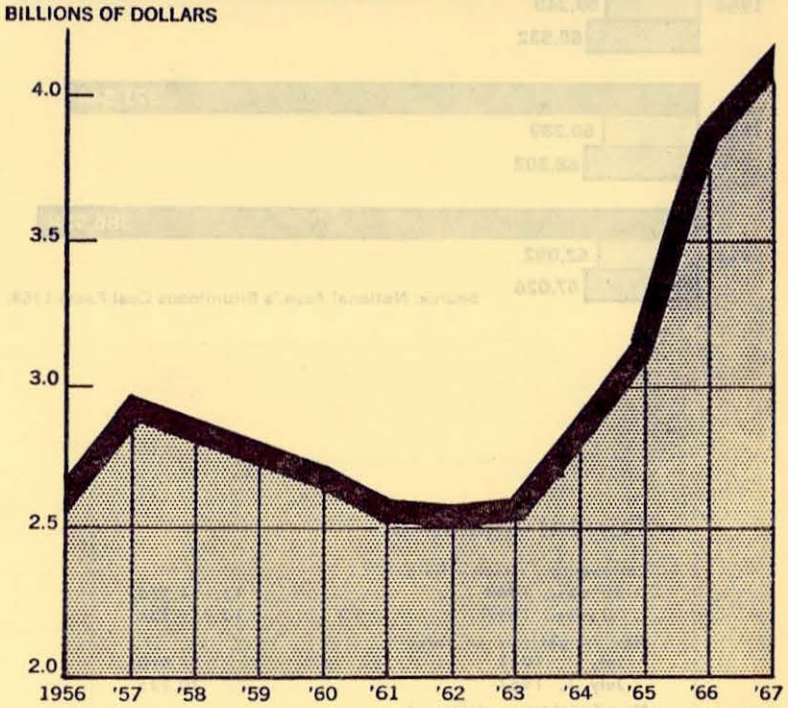
BILLION TON-MILES (Estimated)



Source: Association of American Railroads

EQUIPMENT OBLIGATIONS AT YEAR END

(U.S. Class I Railroads)



Source: Reports of carriers to the ICC.

MARKET OUTLOOK

CARLOADINGS

Loadings of revenue freight in the week ended July 27 totaled 566,058 cars, the Association of American Railroads announced on Aug. 1. This was an increase of 1,042 cars, or 0.2%, compared with the previous week; an increase of 17,135 cars, or 3.1%, compared with the corresponding week last year; and a decrease of 26,452 cars, or 4.5%, compared with the equivalent 1966 week. Ton-miles generated by carloadings in the week ended July 27 are estimated at 14.7 billion, an increase of 7.1% above the corresponding week of 1967, and 1.6% above the 1966 week.

REVENUE FREIGHT CARLOADING

For the week ended Saturday, July 27

District	1968	1967	1966
Eastern, including Allegheny and Pocahontas	216,095	216,034	230,307
Southern	120,964	108,536	114,608
Total Eastern and Southern Districts	337,059	324,570	344,915
Northwestern	81,487	80,284	91,996
Central Western	109,030	106,060	116,268
Southwestern	38,482	38,009	39,331
Total Western Districts	228,999	224,353	247,595
Total All Roads	566,058	548,923	592,510
Commodities:			
Grain and Grain Products	43,740	55,976	63,714
Livestock	818	1,126	1,223
Coal	109,455	113,770	117,567
Coke	7,295	6,246	8,423
Forest Products	42,787	41,550	41,105
Ore	56,384	49,886	55,319
Merchandise l.c.l	3,555	4,326	6,179
Miscellaneous	302,024	276,043	298,980
July 27	566,058	548,923	592,510
July 20	565,016	484,548	572,535
July 13	549,532	530,110	565,660
July 6	443,377	405,594	445,102
June 29	539,144	505,672	554,203
Cumulative total, 30 weeks	16,114,375	15,971,734	16,793,938
Estimated revenue ton-miles (billions) 30 weeks	432.0	411.0	421.0

PIGGYBACK CARLOADINGS

U. S. piggyback loadings for the week ended July 20 totaled 24,676 cars, carrying 41,115 trailers, compared with 20,777 cars, carrying 32,207 trailers, in the corresponding 1967 week. Loadings for 1968 up to July 20 totaled 725,568 cars, carrying 1,177,741 trailers, compared with 647,950 cars, carrying 1,063,679 trailers, in the corresponding period of 1967.

IN CANADA

Canadian loadings were not available as this issue went to press.

FREIGHT TRAIN CARS

• *Gulf, Mobile & Ohio.*—Will lease 200 70-ton box cars valued at $2.7 million from United States Leasing International.

• *Serviceable cars decline.*—Revenue freight cars in serviceable condition owned by Class I railroads on July 1 totaled 1,396,613, compared with 1,420,402 on July 1, 1967, according to most recent AAR Car Service Division report. Estimated total ownership of all railroad- and privately-owned freight cars on July 1 (see table below), was 1,812,814 (average capacity: 63.66 tons), compared with 1,831,121 (average capacity: 62.04 tons), on July 1, 1967.

ESTIMATED OWNERSHIP—ALL REVENUE FREIGHT CARS

(July 1, 1968 vs. July 1, 1967)

		Box	Covered Hopper	Gondola	Hopper	Flat	Refrig.	All Others	Total
Class I	1968	558,604	122,210	200,454	415,500	67,580	51,828	57,148	1,473,324
	1967	576,360	114,999	204,673	425,302	66,333	50,531	59,934	1,498,132
RRO&C Refrig.*	1968	0	0	0	0	0	49,556	0	49,556
	1967	0	0	0	0	0	52,816	0	52,816
Private	1968	1,350	28,473	331	3,919	42,051	15,252	172,290	263,666
	1967	1,857	26,194	599	1,745	36,460	15,849	171,104	253,808
Class II & S&T†	1968	9,339	892	5,190	8,388	637	727	1,095	26,268
	1967	9,122	813	5,503	8,521	702	558	1,146	26,365
GRAND TOTAL	1968	569,293	151,575	205,975	427,807	110,268	117,363	230,533	1,812,814
	1967	587,339	142,006	210,775	435,568	103,495	119,754	232,184	1,831,121

*Railroad owned and controlled refrigerator car lines.
†Class II railroads and switching and terminal companies.

• *July bad order ratio same as last year.*—Class I roads on July 1 owned 1,473,324 freight cars, 24,808 less than on July 1, 1967, according to AAR report summarized below. Bad order ratio remained the same as on July 1, 1967.

	July 1, 1968	July 1, 1967	Change
Car ownership	1,473,324	1,498,132	24,808
Waiting repair	76,711	77,730	1,019
Repair ratio	5.2%	5.2%	0

NEW FACILITIES

• *Chicago & North Western.*—Started construction of a $3.5-million coach service center at California Avenue Yard, Chicago. The new facility will be used for routine maintenance and light and heavy repairs on bi-level suburban cars, as well as equipment used in intercity service. The main shop building will house 6 service tracks, 3 for light running repairs and 3 for complete overhaul or rebuild and replacement of major car components. Also included in the shop complex will be separate sheet metal, electrical, air-brake, air-conditioning and heating system shops, and an enclosed paint shop equipped for high-speed coach painting. Completion of the facility is scheduled for October 1969.

YOU OUGHT TO KNOW

Shareholders accept ATSF exchange offer

Holders of more than 80% of the outstanding stock of Santa Fe Railway have accepted the exchange offer of Santa Fe Industries, and the offer is being extended until Aug. 16 for those shareholders who have not indicated acceptance. Meanwhile, Industries is issuing its notice of deposit to all stockholders, requesting that they forward their stock certificates with an executed Letter of Transmittal. Deposit must be made by the close of business Aug. 16.

Washington subway hits a snag

Plans for an October ground-breaking for Washington's rapid transit system met a setback in Congress last week. The Senate followed the House lead in deleting construction appropriations for the Washington Metropolitan Area Transit Authority from the District of Columbia capital budget for this fiscal year. A supplemental appropriation is not ruled out, but the hoped-for target date for digging is a dead letter.

New rail yard will feed cars to "land bridge"

The Port of New York Authority will build a $457,000 railroad classification yard at Port Newark, N. J., to speed rail delivery and pick-up of oceanborne freight moving through Port Newark and the Elizabeth-Port Authority Marine Terminal. PNYA Chairman James C. Kellogg III said the new yard will provide adequate facilities in the New York port area for the handling of transcontinental container trains in the "land bridge" system now envisioned by the railroads. The new yard has been designed so that it can be expanded by about 75% when rail volume increases. Last year, more than 23,000 cars were handled over the 50 miles of track serving wharves and distribution buildings at the two seaports.

New Jersey orders probe of Penn Central

New Jersey commuters who ride the Penn Central aren't happy with the service provided—so the state's Commuter Operating Agency has ordered a "sweeping investigation" into Penn Central commutation. COA says the probe will include public hearings and will cover "equipment shortages, air conditioning failures, maintenance procedures, train cancellations, cleanliness of cars, on-time performance and other matters." COA feels the investigation is justified because the state is putting up $5 million toward the purchase of 35 new commuter cars for P-C, and because the railroad would be "a major beneficiary" of a $200-million transportation bond issue that goes before the voters in November.

Petroleum men select Atlanta for traffic conference

The American Petroleum Institute's annual Conference on Industrial Traffic will be held this year in Atlanta, Ga., Sept. 25-27. Speakers will include John S. Rice, president of Rice Truck Lines; Under Secretary of Transportation John E. Robson; and D. R. Kirchman, of Phillips Petroleum Co., who will describe "REDCAP," a computerized tank car control system.

Westinghouse Electric hikes transit prices

Westinghouse Electric last week announced an 8.2% price increase on electrical propulsion drives and control and auxiliary equipment for rapid transit and commuter cars. The company said the increase was "a direct result of substantial increases in labor and material costs over the past several years."

Los Angeles will vote on transit tax

The Southern California Rapid Transit District has announced its "intention" to place a measure on the Nov. 5 ballot to fund rapid transit improvements with a half-penny sales tax. SCRTD President Don C. McMillan said legislation permitting the proposal to go to a vote is now "virtually assured" of passage. "We're no longer just talking rapid transit," said McMillan. "We're ready to begin building. Engineering required by law for a vote of the people on rapid transit has been completed." The total transit plan envisioned for Los Angeles County would cost $2.5 billion. (See p. 25.)

RAILWAY BOOKSHELF

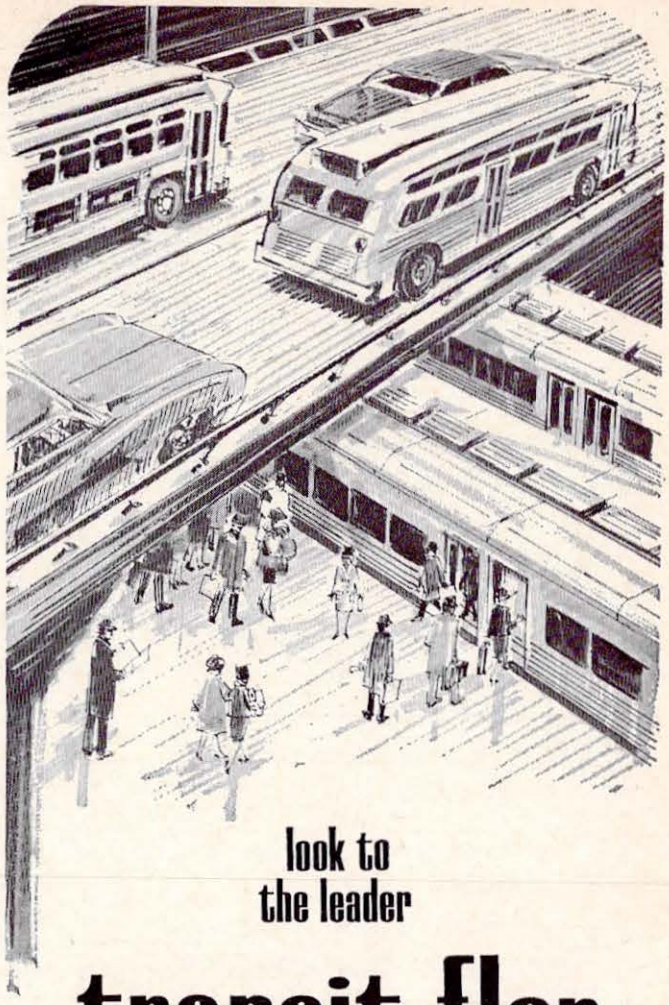
What do you need to know about public transport in 118 principal cities of the world, ranging from Aachen and Addis Ababa to Zagreb and Zurich? If you don't find the answer in the newly-published second edition of "Statistics of Urban Public Transport" (International Union of Public Transport, 19, avenue de l'Uruguay, Brussels 5, Belgium; 211 pp., 750 Belgian francs, or about $15.00), you aren't likely to find it anywhere. This exhaustive, tri-lingual (English, French and German) compendium is up-to-date as of Jan. 1, 1968. It is divided broadly into two sections: Metropolitan (underground) railways, and surface systems. Thirty-six of the former are included. Look up London, for example, and you find that the London Transport Board (55, Broadway, Westminster, London S. W. 1) inaugurated underground service on Nov. 1, 1863; electrified its lines in 1890; now serves a population of 10,236,000 spread out over 5,000 square kilometers; operates 7 different lines over 346 route Kms (of which 142 are in tunnels); serves 228 stations an average of 1,260 meters apart; operates 322 million car Kms annually; carries 667 million passengers a year, or 1,900,000 per kilometer of line; has a total staff of 74,000, of whom 23,000 are assigned to the Metro; is in service between the hours of 5 a.m. and 1 a.m.; operates on tracks of 1.435 meter gauge at a commercial speed of 32.3 km/h; takes 600 V current from third rail; runs trains of 6-8 cars in peak hours, and 4-7 cars in slack hours; operates at minimum two-minute headways; has a fleet of 2,881 motorized cars and 1,243 trailer cars. There is more, but that will give you an idea.

Other publications available from UITP are listed in a catalogue available from Brussels.

•

The term "must reading" is applied rather too liberally these days—but lovers of railroad lore will surely want to put a "must" tag on the just-issued facsimile edition of the first edition (June 1868) of what is now called "The Official Guide of Railways." Then called "The Travelers' Official Railway Guide," the only known surviving copy of this issue is in the collection of the New York Public Library. The facsimile edition (available at $3.00 from National Railway Publication Co., 424 West 33rd St., New York 10001) is a volume of 280 pages, 5 by 6½ inches in size.

It contains the timetables of some 360 railroads, of which 223 have since been absorbed by 26 others which are still operating under their 1868 names. An additional 96 of the original listees have been taken over by 21 lines not listed in the June 1868 Guide; the others have been otherwise disposed of. Some 40 pages of editorial comment precede the time-tables in this first edition. It is pointed out, among other things, that "a general prostration of business south of the Ohio River" is hurting the Illinois Central; that the Pennsylvania is considering "construction of a line exclusively for freight purposes, on which the speed should not exceed six miles per hour, and on which the lowest possible cost of movement of trains could be secured by a peculiar adaptation of locomotives and cars to the business in which they are to be engaged." Standard time zones were not adopted until 1883; so the first edition of the Guide presented a table of local times as compared with that of Washington D.C. When it was noon in the nation's capital, it was 12:14 p.m. in Albany, N.Y.; 12.02 p.m. in Baltimore; 11:31 a.m. in Cincinnati. That was one reason the Guide was such a boon to travelers 100 years ago.—**L.S.M.**



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Circle 15 on coupon page 33

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RA-8/5/68

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Amsted

John W. Barriger
Sylvania

James H. Kearns
Toronto Transit

SUPPLY TRADE

Warren A. Logelin, director of personnel, public relations, and advertising, **AMSTED Industries,** has been elected a corporate vice president. Mr. Logelin, who will be responsible for personnel, public relations, and advertising, succeeds **Marion J. Allen,** retired (RA, July 15, p. 32). **William B. Colwell,** manager of public relations and advertising, has been named director of public relations and advertising.

John W. Barriger has been appointed manager of Transportation Control Systems, Commercial Electronics Division, **Sylvania Electric Products, Inc.,** Bedford, Mass., succeeding **David J. Collins,** who will continue as general manager, Sylvania Rail Data Corp. Mr. Barriger was formerly superintendent of transportation, **Santa Fe,** Chicago. He will be responsible for electronic transportation control systems including Sylvania's KarTrak system.

C. M. Basile, president, **Link-Belt Speeder Division, FMC Corp.,** has been advanced to general manager, **Link-Belt Group, Product Division,** with headquarters at Indianapolis. **Frank J. Strand,** vice president for engineering, has been appointed president of **Link-Belt Speeder** and general manager of operations worldwide. **Robert E. Thune,** chief engineer, has been named vice president for engineering. **H. Ray Cozad,** assistant chief engineer, succeeds Mr. Thune.

Kenneth M. Darling has joined **R. L. Banks & Associates, Inc.** as senior staff engineer, Washington, D. C. Mr. Darling formerly was senior mechanical engineer — marketing, United Aircraft Corp.

Herb Konrad has joined **Parker Seal Co.** as railroad seal specialist, at York, Pa. Mr. Konrad was formerly senior sales representative, Fuzing Devices Division, Bendix Corp.

Charles H. Mertz has been appointed manager— customer service department of **WABCO's Westinghouse Air Brake Division,** Wilmerding, Pa.

TRANSIT

James H. Kearns, assistant general manager of operations, **Toronto Transit Commission,** has been promoted to general manager of operations, succeeding **John G. Inglis,** who retired July 1.

William H. Polk has joined the **Pennsylvania State Highways Department** as a special assistant to Eric J. von Hausswolff, deputy secretary for planning and programming. He will be responsible for coordinating programs with highway and other transportation planning agencies. Mr. Polk was formerly responsible for mass transit and intercity transportation plans for governmental and industrial clients, EBS Management Consultants, New York. Previously he had been associated with the Southeastern Pennsylvania Transportation Authority.

Francis F. Elliott is the new treasurer and a trustee of the **Chicago South Suburban Mass Transit district.** Mr. Elliott retired on July 17 from the position of assistant treasurer, American Oil Co.

Robert E. Toohey has been appointed general manager, **Department of Street Railways, City of Detroit.** Mr. Toohey, who has been commissioner of Detroit's **Department of Public Works,** replaces **George W. Smith, Jr.,** acting general manager, who retired July 5.

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General Railway Signal Company is looking for people to fill Application Engineering, and Circuit Designing positions. If you have an A.A.S. degree, B.S. degree, or equivalent experience, we would like to talk to you. General Railway Signal is rapidly expanding its business into many transportation control areas, thus our need for several new people.

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VIEWPOINT

AEC's "oversell" isn't the only one

The National Coal Association, battling again (or still) in behalf of King Coal and its future, came up with one of the neatest phrases of the year, in a recent appeal to Congress.

NCA is asking Congress to free the Atomic Energy Commission from its present duty to promote atomic power, as NCA puts it, "at all costs."

And the mind-sticking phrase? NCA wants members of the AEC to have "the legal opportunity to be honest." It's not often that six words can hint so strongly at volumes.

The coal people's argument, of course, is that the Atomic Energy Act of 1954 directs AEC to encourage widespread use of atomic energy, to the maximum consistent with common defense and security and the health and safety of the public. This mandate, NCA charges, has resulted in an "atomic oversell" which threatens the future public welfare. The law, NCA contends, should limit AEC promotion to those efforts consistent with the "long-range public welfare."

All of this has a more-than-vaguely familiar ring to it. NCA's phraseology could be lifted almost bodily over into the railroad arena. Only minor changes might be required—such as the substitution of "highway oversell," or "waterway oversell," or "airways oversell." Somewhere in the text, the phrase "railway no-sale" could be inserted.

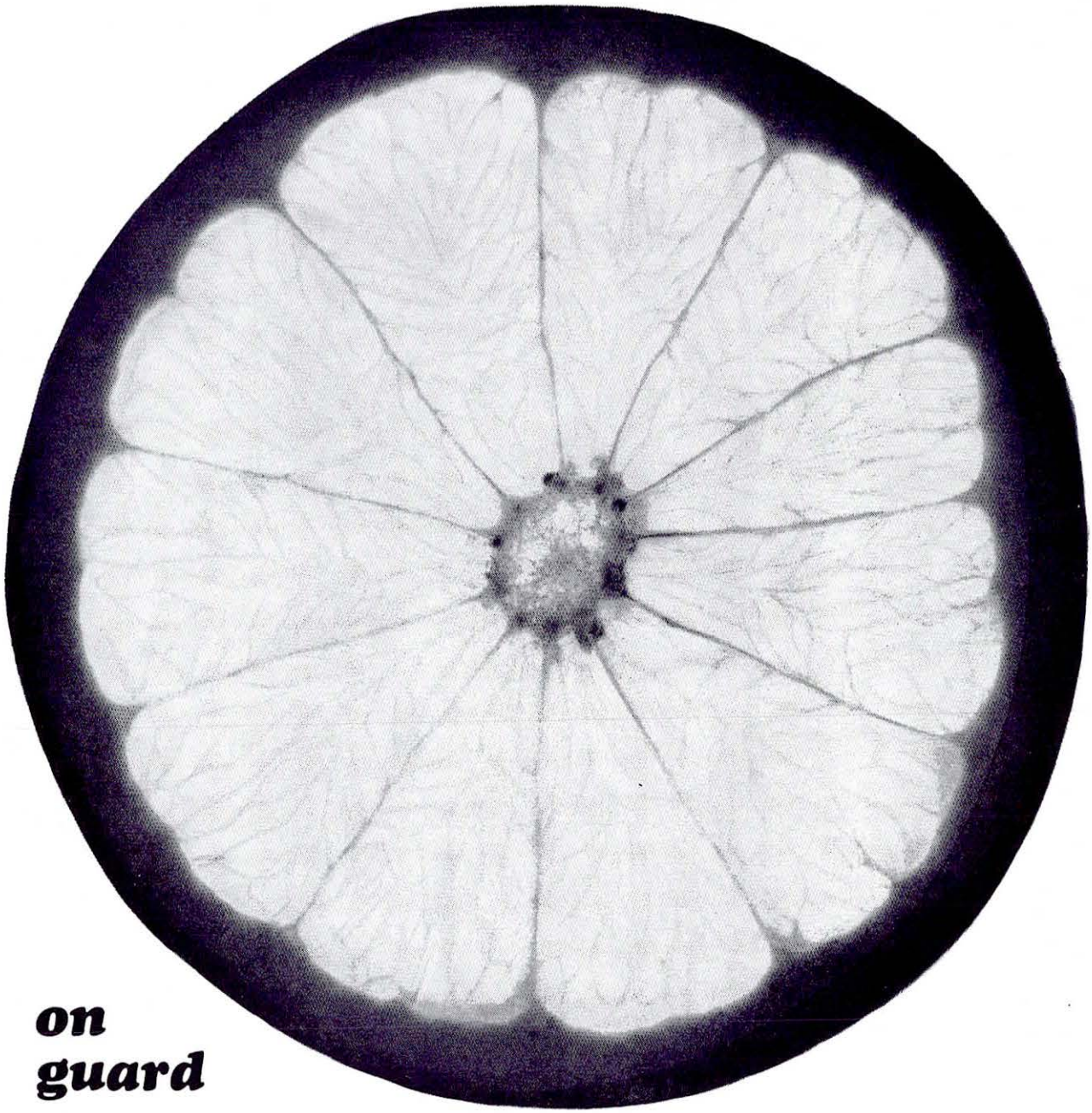
Government's selective involvement in transportation is such an old story that its re-telling seldom produces more than a "ho-hum." For instance: According to figures compiled by the Transportation Association of America, government expenditures for transport facilities climbed from $7.4 billion in 1955 to $11.5 billion in 1960 to $16.3 billion in 1966. TAA's breakdown covers airways, airports, rivers and harbors and highways. There is no "railroad" column in the tabulation. But who, besides the railroads themselves, ever raises a voice in complaint?

NEEDED: GUTS PLUS CLOUT

Or, to look at the situation another way, who raises a howl about congested and dangerous highways when trucking interests, plugging monster-rigs, talk about under-utilization of the highway system? Who, besides the nerve-shot air traffic controllers, blows the whistle on the kind of airline competition which has made the skies around major airports one giant, ticking time-bomb? Who raises a fuss about waterways boondoggling?

Who stands up and says "Halt," or rather, who dares to? Who, anywhere in government, has the combination of guts and clout to demand a sound, rational national transportation policy—and get action on the demand? Who's going to tell (1) the Justice Department, (2) the Interstate Commerce Commission, and (3) the Department of Transportation that time is running out, that looking backward will no longer work, that man's most efficient application of the wheel—i.e., the railroad—deserves something better than it's getting?

The National Coal Association talks about the legal opportunity to be honest. Government already has that, in large degree, where transportation is concerned. It's the moral obligation to be honest that seems to be the hang-up.



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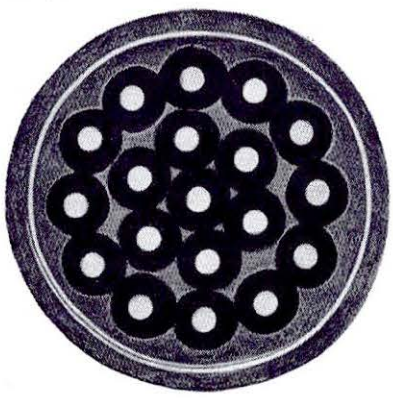

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